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GEORGIA MANUFACTURING ATLAS

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Foreword

The continuing requests for copies of the first edition of the Georgia Manufacturing Atlas almost three years after it was issued indicate that the original purposes of the volume have been fulfilled. These were to provide a handy reference which would give to both developers and businessmen information of value for their respective needs.

Much can be learned from the graphic presentation of industry data in the atlas. For the developer, it can be used as a starting point for the analysis of manufacturing potentials -- potentials which result from the lack of a particular type of manufacturing operation or are related to existing concentrations of manufacturing plants in a given location. For the manufacturer or businessman, it may reveal opportunities for manufacturing and selling to companies now located in Georgia.

Careful comparison of the various maps will substantiate the theme expounded in other IDD reports: some sections of the state are woefully deficient in manufacturing plants and employment. Conversely, the clusters of manufacturing activity in other sections of the state provide challenging source materials for those interested in industrial location analysis.

It is hoped that this revision of the atlas will prove of value to many development groups, companies, and individuals. Comments on the volume or suggestions as to ways in which it may be improved in future editions will be welcomed.

Kenneth C. Wagner, Chief
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Introduction

This publication succeeds the first edition of the Georgia Manufacturing Atlas, which was issued by the Industrial Development Division in June 1962. Although some modifications have been introduced, the format and purpose of this volume are essentially the same.

Section I gives a brief review of Georgia's manufacturing compared with that of the nation and the Southeast. It also presents a generalized picture of manufacturing within the state.

Section II is a series of 40 maps which present the location of Georgia's industry in graphic form. These maps show, by county, the number of plants and total employment of each major group or sub-group of manufacturing industries. Accompanying each map is a brief analysis which includes a listing of major firms.

The Atlas is intended primarily for businessmen who are concerned with the location or expansion of manufacturing operations and for local development groups who need to examine the industrial potential in their area against the background of existing development in the surrounding counties. It can be useful as a preliminary guide to indicate manufacturing and service possibilities which may warrant more detailed investigation.

An index following the map section of the Atlas gives page and map references by type of product manufactured.

Section I

MANUFACTURING IN GEORGIA: A BRIEF REVIEW

MANUFACTURING IN GEORGIA: A BRIEF REVIEW

Between 1958 and 1963 Georgia's employment in manufacturing increased by 13.7%, from 314,000 to 357,000 workers.^{1/} On a national level manufacturing employment increased by 6.5% -- less than half the Georgia figure.

Value added by manufacture increased in the state from \$2,102 million to \$3,165 million,^{2/} a gain of 50.6% -- well above the national increase of 34.6%.

These results look excellent if left without further analysis, but percentage increases can be deceptive since the state's base figure is so much smaller than that of the nation.

A more definitive picture of Georgia's gain is shown in the tables which follow in this section. Only nine other states show a greater absolute gain in number of manufacturing employees -- California, North Carolina, Indiana, Tennessee, Ohio, Michigan, Virginia, Florida, and New Jersey -- all included in the top 25 states in number of manufacturing employees listed in Table 1. Two of the 25 states, New York and Pennsylvania, actually lost manufacturing employees. New York retained its top position though its proportion of the U. S. employment total dropped from 11.9% to 11.0%; however, Pennsylvania lost its second position to California whose amazing gain of 209,000 manufacturing employees brought its proportion of the U. S. to 8.4%, as compared with 7.6% in 1958.

The percentage of the U. S. total declined in 10 of these top 25 states from 1958 to 1963, it remained the same (rounded to the first decimal point) in five, and it increased in 10. Georgia was among the gainers, increasing its proportion of manufacturing employees from 2.0% to 2.1% of the U. S. total.

Although Georgia's gain during the 1958-1963 period was significant, it was not sufficient to keep pace with several neighboring states. Three southeastern states -- North Carolina, Tennessee, and Florida -- added more manufacturing employees during the period, and these states plus South Carolina showed greater percentage increases in manufacturing employment from 1958 to 1963.

^{1/} U. S. Bureau of the Census, 1963 Census of Manufactures, Preliminary Report.

^{2/} Not adjusted for any change in the value of the dollar.

Table 1
MANUFACTURING EMPLOYEES

Top 25 States Ranked by 1963 Size	1963	1963	1958	Change 1958-63	
	Number (000)	Per Cent of U. S.	Per Cent of U. S.	Number (000)	Per Cent
1. New York	1,877	11.0	11.9	-37	-1.9
2. California	1,426	8.4	7.6	209	17.2
3. Pennsylvania	1,400	8.2	8.7	- 1	- .1
4. Ohio	1,251	7.3	7.5	50	4.2
5. Illinois	1,222	7.2	7.4	34	2.9
6. Michigan	930	5.4	5.5	50	5.7
7. New Jersey	840	4.9	5.0	45	5.7
8. Massachusetts	681	4.0	4.2	1	.1
9. Indiana	610	3.6	3.4	59	10.7
10. North Carolina	539	3.2	2.9	77	16.7
11. Texas	510	3.0	3.0	32	6.7
12. Wisconsin	467	2.7	2.7	28	6.4
13. Connecticut	417	2.4	2.5	6	5.8
14. Missouri	394	2.3	2.4	14	3.7
15. GEORGIA	357	2.1	2.0	43	13.7
16. Tennessee	335	2.0	1.8	52	18.4
17. Virginia	306	1.8	1.6	48	18.6
18. Maryland	264	1.5	1.6	5	1.9
19. South Carolina	262	1.5	1.4	36	15.9
20. Minnesota	252	1.5	1.4	32	14.5
21. Alabama	246	1.4	1.4	16	7.0
22. Washington	225	1.3	1.3	10	4.7
23. Florida	218	1.3	1.1	46	26.7
24. Kentucky	181	1.1	1.0	19	11.7
25. Iowa	179	1.0	1.0	13	7.8

Source: 1963 Census of Manufactures, Preliminary Report

Table 2 shows the top 25 states in value added by manufacture. They are the same 25 states that lead in manufacturing employment, but the rank order varies slightly from Table 1. Georgia ranked 16th among the states in value added by manufacture in 1963, compared with 19th in 1958. All the states showed an increase in dollar amounts between the two years, but of the 25 states listed in Table 2 eight decreased as a percentage of the U. S., six remained the same (rounded to the first decimal point), and 11 increased. Georgia accounted for 1.5% of the total U. S. "value added" in 1958 and increased this figure to 1.7% by 1963.

These favorable results did not change Georgia's ranking in value added by manufacture per employee. (See Table 3.) The state remained 44th out of the 50 states and the District of Columbia. The Georgia figure of \$8,866 in 1963, however, was 79.5% that of the U. S., compared with 76.4% in 1958.

The low ranking of Georgia in this category is due to the high proportion of manufacturing employees in textiles and apparel -- industries which, in general, have a low value added per employee. Such industries also tend to pay relatively low wages. This is further illustrated in Table 4, which shows Georgia as having 31.5% of its nonfarm employees in manufacturing but as receiving only 28.5% of its nonfarm income from manufacturing. In contrast, Delaware has a high proportion of its manufacturing workers in chemicals -- an industry with a high value added per employee and high wages. Delaware's income from manufacturing was 45.1% of its total nonfarm income, compared with its manufacturing employment of 36.4% of total nonfarm employment. Various other factors modify these generalizations, of course, but an indication of the predominant types of industries in each state can be seen by comparison of the figures in Table 4.

Table 5 pulls together the foregoing data for the seven-state Southeast. Here again the type of industry mix for each state is reflected in the value added per employee -- Georgia drops to fourth place in value added per employee, compared with second place in total manufacturing workers.

The most important types of manufacturing in Georgia, in terms of employment, are given in Table 6, together with the proportion each represents of the national employment in that industry. Textiles and apparel account for 41.7% of the state's manufacturing employment. With nearly 11% of the nation's

Table 2
VALUE ADDED BY MANUFACTURE

Top 25 States Ranked by 1963 Size	<u>1963</u>	<u>1963</u>	<u>1958</u>	<u>Change 1958-63</u>	
	Million Dollars	Per Cent of U. S.	Per Cent of U. S.	Million Dollars	Per Cent
1. New York	19,633	10.3	11.2	3,741	23.5
2. California	17,498	9.2	8.5	5,450	45.2
3. Ohio	15,250	8.0	8.1	3,777	32.9
4. Illinois	14,385	7.6	8.2	2,721	23.3
5. Pennsylvania	13,459	7.1	8.1	2,011	17.6
6. Michigan	13,039	6.8	5.9	4,675	55.9
7. New Jersey	10,371	5.4	5.3	2,872	38.3
8. Indiana	7,660	4.0	3.9	2,182	39.8
9. Texas	6,811	3.6	3.6	1,766	35.0
10. Massachusetts	6,340	3.3	3.6	1,210	23.6
11. Wisconsin	5,365	2.8	2.8	1,405	35.5
12. Connecticut	4,360	2.3	2.3	1,171	36.7
13. North Carolina	4,298	2.3	2.2	1,215	39.4
14. Missouri	4,277	2.2	2.3	1,026	31.6
15. Tennessee	3,317	1.7	1.6	1,110	50.3
16. GEORGIA	3,165	1.7	1.5	1,063	50.6
17. Virginia	3,013	1.6	1.5	890	41.9
18. Maryland	2,973	1.6	1.7	594	25.0
19. Washington	2,922	1.5	1.5	755	34.8
20. Minnesota	2,872	1.5	1.4	822	40.1
21. Kentucky	2,446	1.3	1.3	664	37.3
22. Florida	2,347	1.2	1.0	936	66.3
23. Iowa	2,285	1.2	1.2	601	35.7
24. Alabama	2,270	1.2	1.3	499	28.2
25. South Carolina	2,094	1.1	1.0	734	54.0

Source: 1963 Census of Manufactures, Preliminary Report

Table 3

VALUE ADDED BY MANUFACTURE PER EMPLOYEE, 1963

United States	\$11,157	26. South Dakota	\$11,385
1. Nevada	15,286	27. Maryland	11,261
2. West Virginia	15,017	28. Wyoming	11,000
3. Michigan	14,020	29. Missouri	10,855
4. Kentucky	13,514	30. Arizona	10,842
5. Alaska	13,500	31. Oregon	10,808
6. Louisiana	13,444	32. Florida	10,766
7. Texas	13,355	33. Delaware	10,763
8. Utah	13,259	34. New York	10,460
9. Washington	12,987	35. Oklahoma	10,457
10. Iowa	12,765	36. Connecticut	10,456
11. Indiana	12,557	37. Tennessee	9,901
12. New Jersey	12,346	38. Virginia	9,848
13. Kansas	12,307	39. Pennsylvania	9,614
14. California	12,271	40. Vermont	9,353
15. Montana	12,250	41. Massachusetts	9,310
16. Ohio	12,190	42. Alabama	9,228
17. Colorado	11,979	43. New Mexico	9,000
18. Hawaii	11,920	44. GEORGIA	8,866
19. District of Columbia	11,818	45. Rhode Island	8,389
20. Illinois	11,772	46. Arkansas	8,351
21. Idaho	11,600	47. South Carolina	7,992
22. North Dakota	11,500	48. North Carolina	7,974
23. Wisconsin	11,488	49. Maine	7,780
24. Nebraska	11,470	50. Mississippi	7,754
25. Minnesota	11,397	51. New Hampshire	7,506

Source: 1963 Census of Manufactures, Preliminary Report

Table 4
MANUFACTURING EMPLOYMENT AND INCOME, 1963

Top 25 States Ranked by Per Cent of Manufacturing Employment	Manufacturing Employment as Per Cent of Total Nonfarm Employment ^{1/}	Manufacturing Income as Per Cent of Total Nonfarm Production Income ^{2/}
United States	29.8	30.6
1. Connecticut	43.6	43.7
2. South Carolina	43.2	38.7
3. New Hampshire	41.8	37.5
4. North Carolina	41.8	36.1
5. Indiana	40.9	44.5
6. Michigan	40.4	46.3
7. Ohio	39.1	42.7
8. Rhode Island	38.9	36.9
9. New Jersey	38.2	37.9
10. Pennsylvania	37.8	39.6
11. Wisconsin	37.5	40.1
12. Maine	36.9	34.1
13. Delaware	36.4	45.1
14. Tennessee	34.4	32.7
15. Massachusetts	33.9	34.0
16. Illinois	33.5	34.5
17. Vermont	31.7	29.9
18. GEORGIA	31.5	28.5
19. Alabama	30.4	29.8
20. Mississippi	30.2	26.2
21. New York	28.9	27.0
22. Arkansas	28.6	26.1
23. Missouri	28.4	29.3
24. West Virginia	27.7	30.7
25. Oregon	26.6	25.7

^{1/} Derived from Bureau of Labor Statistics data.

^{2/} Derived from U. S. Department of Commerce, Survey of Current Business, August 1964, Table 70: "Industrial Sources of Civilian Income Received by Persons for Participation in Current Production."

Table 5

MANUFACTURING IN SEVEN SOUTHEASTERN STATES, 1963

	<u>Manufacturing Employees</u>		<u>Value Added by Manufacture</u>		<u>Value Added Per Employee</u>		<u>Ratio of Total Manufacturing Employment to Total Nonfarm Employment</u>		<u>Ratio of Manufacturing Income to Total Nonfarm Production Income</u>	
	<u>Thousands</u>	<u>Rank</u>	<u>Millions</u>	<u>Rank</u>	<u>Amount</u>	<u>Rank</u>	<u>Per Cent</u>	<u>Rank</u>	<u>Per Cent</u>	<u>Rank</u>
Alabama	246	5	\$ 2,270	5	\$ 9,228	3	30.4	5	29.8	4
Florida	218	6	2,347	4	10,766	1	15.9	7	14.9	7
GEORGIA	357	2	3,165	3	8,866	4	31.5	4	28.5	5
Mississippi	130	7	1,008	7	7,754	7	30.2	6	26.2	6
North Carolina	539	1	4,298	1	7,974	6	41.8	2	36.1	2
South Carolina	262	4	2,094	6	7,992	5	43.2	1	38.7	1
Tennessee	335	3	3,317	2	9,901	2	34.4	3	32.7	3
Seven States	2,087		\$ 18,499		\$ 8,864		31.5		28.2	
United States	17,065		\$190,395		\$11,157		29.8		30.6	
Seven States as Per Cent of U. S.	12.2%		9.7%		79.4%					

Sources: Employment and value added -- 1963 Census of Manufactures, Preliminary Report

Employment ratios -- derived from Bureau of Labor Statistics data

Income ratios -- derived from U. S. Department of Commerce, Survey of Current Business, August 1964, Table 70: "Industrial Sources of Civilian Income Received by Persons for Participation in Current Production"

textile employment, Georgia has more than 4% of the apparel employment and over 4.5% of the total U. S. employment in lumber and wood products -- another low-wage, low-value-added industry.

Table 6
MANUFACTURING EMPLOYMENT IN GEORGIA BY MAJOR INDUSTRY GROUPS, 1963

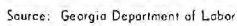
<u>Manufacturing Industry</u>	<u>Annual Average</u>	<u>Per Cent Distribution</u>	<u>Per Cent of U. S. Employment</u>
Total manufacturing	361,700	100.0	2.12
Textile mill products	96,500	26.7	10.84
Apparel and related products	54,400	15.0	4.19
Food and kindred products	45,700	12.6	2.63
Transportation equipment	32,600	9.0	2.02
Lumber and wood products	26,600	7.4	4.54
Paper and allied products	20,300	5.6	3.27
Stone, clay, and glass products	12,100	3.3	1.99
Chemicals and allied prod- ucts	11,100	3.1	1.28
Printing, publishing, and allied industries	10,700	3.0	1.15
Fabricated metal products	10,000	2.8	.87
Machinery, except electrical	9,300	2.6	.61
Furniture and fixtures	7,900	2.2	2.03
Electrical machinery	5,900	1.6	.37
Primary metal industries	5,000	1.4	.43
Leather and leather products	3,900	1.1	1.11

Source: Department of Labor, Bureau of Labor Statistics

Manufacturing within Georgia

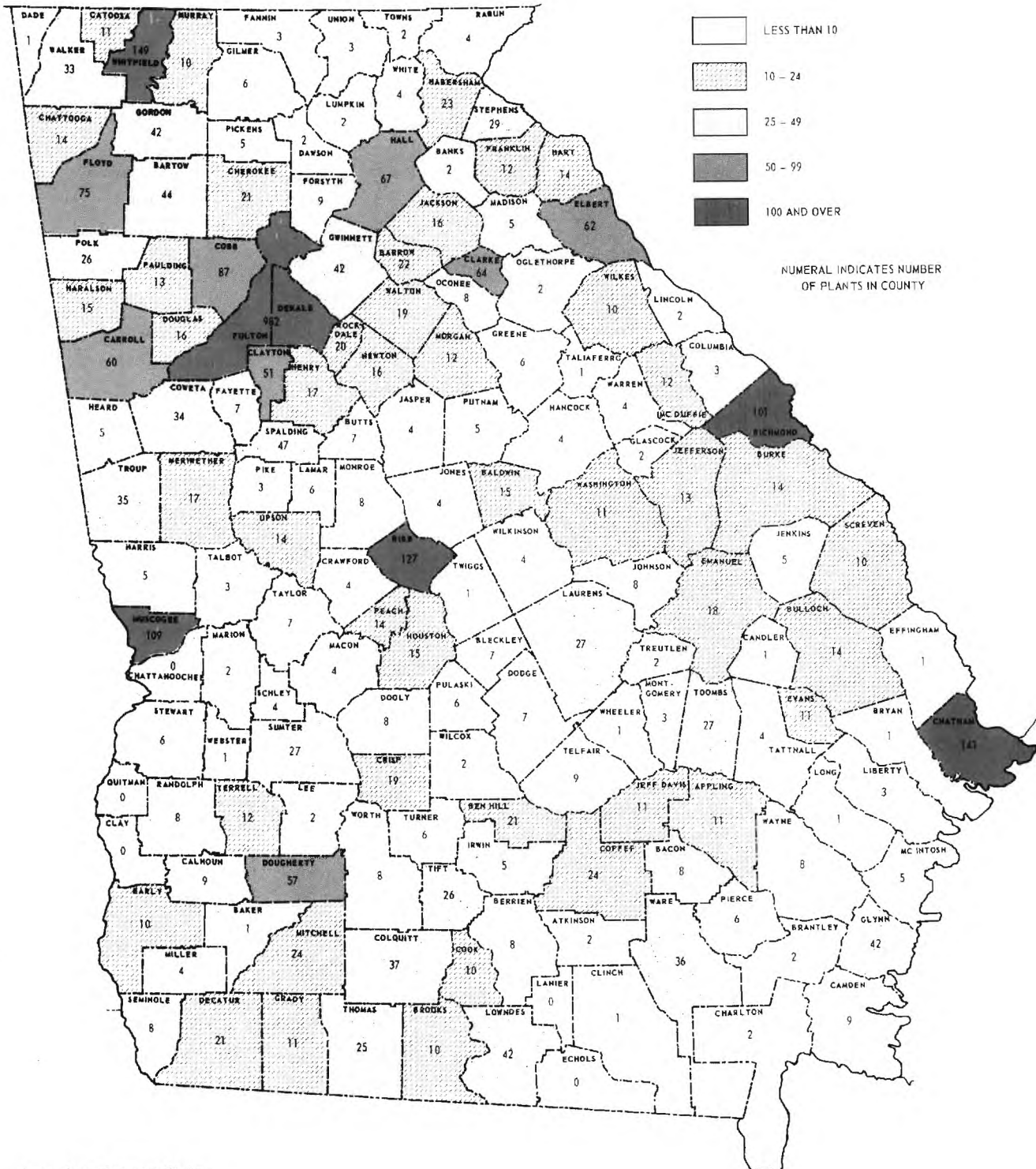
Map 1 is based on data compiled by the Georgia Department of Labor for the second quarter of 1964. Only those firms covered by the Georgia Employment Security law are included -- which, in general, means only those firms with four or more employees.

MANUFACTURING FIRMS WITH FOUR OR MORE EMPLOYEES
(Second Quarter, 1964)



MAP 2

MANUFACTURING FIRMS WITH FOUR OR MORE EMPLOYEES, EXCLUDING LOGGING OPERATIONS, SAWMILLS, AND PLANING MILLS (Second Quarter, 1964)



Source: Georgia Department of Labor

It is clear that there is a high concentration of manufacturing plants in each of the major cities of the state, with the Atlanta area of predominant importance. Only seven counties have more than 100 firms each -- Fulton, DeKalb, Bibb, Chatham, Muscogee, Richmond, and Whitfield -- with Whitfield the only county not in a metropolitan area. The Fulton-DeKalb area far outweighs the other five counties in this top group, with 1,010 plants as compared with the combined five-county total of 690 plants.

There are 27 counties with less than 10 manufacturing companies and a further 75 counties with between 10 and 24 plants each.

In many of the more rural counties the bulk of the manufacturing work is concerned with logging and milling operations. There are 1,475 plants in Georgia engaged in cutting timber and pulpwood and in producing lumber and wood basic materials, with an average employment of less than 12 workers per plant. If these logging camps and sawmills and planing mills are excluded from the industrial picture, the very limited manufacturing base of many of Georgia's counties becomes even more apparent. (See Map 2.)

Analyzed in tabular form, if the logging and millwork operations are excluded, over 52% of Georgia's counties have less than 10 manufacturing firms. Nearly 80% have less than 25 firms. (See Table 7.)

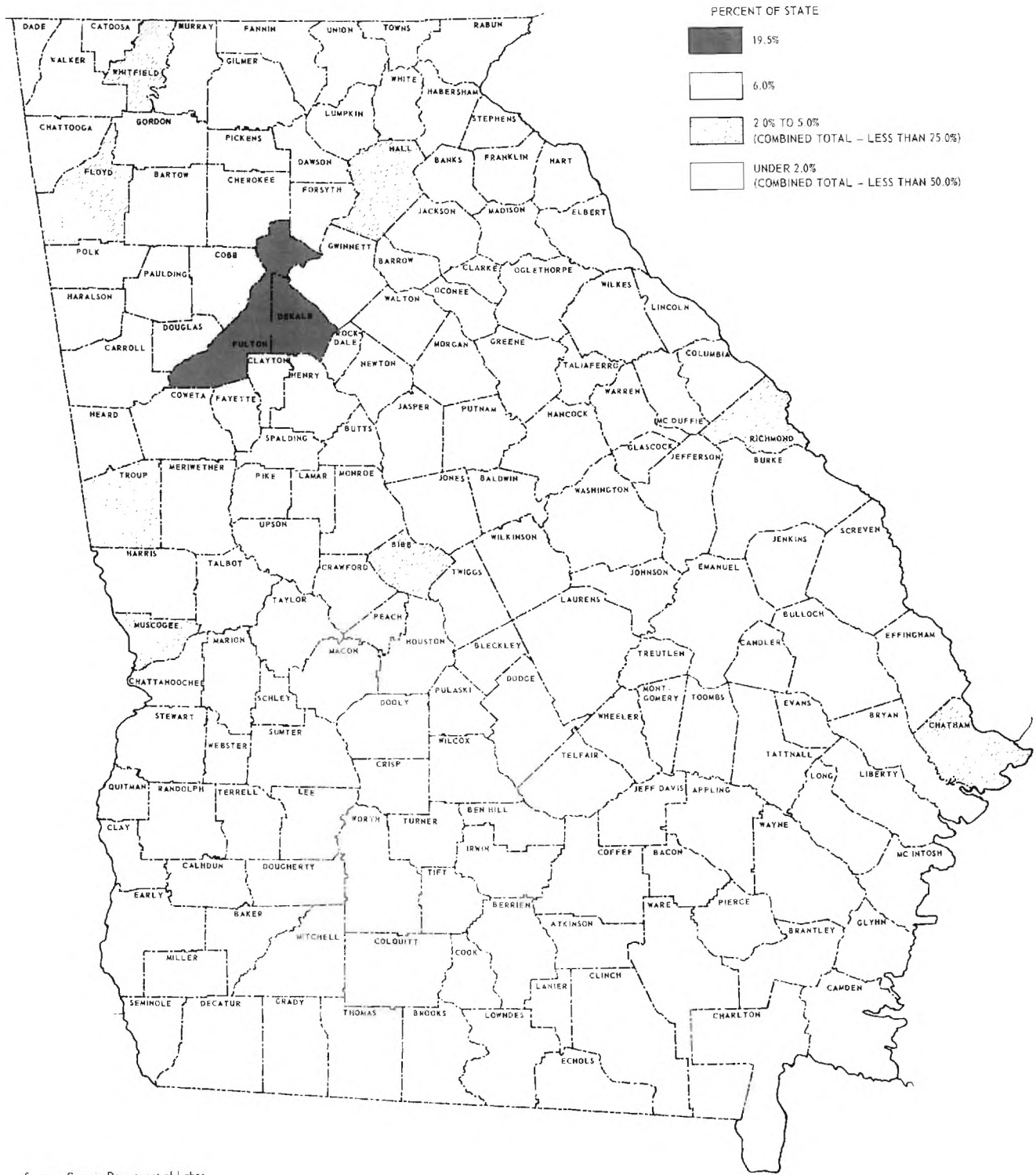
Table 7
DISTRIBUTION OF MANUFACTURING PLANTS IN GEORGIA

<u>Number of Plants</u> ^{1/}	<u>All Plants</u>		<u>Excluding Logging, Sawmills, and Planing Mills</u>	
	<u>Number of Counties</u>	<u>Per Cent of Counties</u>	<u>Number of Counties</u>	<u>Per Cent of Counties</u>
Less than 10	27	17.0	83	52.2
10-24	75	47.1	43	27.1
25-49	37	23.3	18	11.3
50-99	13	8.2	8	5.0
100 and over	<u>7</u>	<u>4.4</u>	<u>7</u>	<u>4.4</u>
Total		100.0	159	100.0

^{1/} With four or more employees.

MAP 3

CONCENTRATION OF MANUFACTURING EMPLOYMENT



The importance of Atlanta is further illustrated in Map 3. Over 19.5% of the state's manufacturing employment is in the Fulton-DeKalb area. No other county can approach this concentration, the next in size being Cobb (part of the Atlanta Metropolitan Area) with 6% of the state's total.

The eight counties next in size each have between 2.0% and 5.0% of Georgia's manufacturing employees, with a combined total of under 25.0% -- less than the Fulton-DeKalb-Cobb total.

Over half the manufacturing employees of the state work in these 11 counties. Of the other 148 counties only 10 have less than 2.0% but more than 1.0%; the rest vary all the way down from 1.0% to .0035% of the total manufacturing employment in the state.

Section II of this report provides details of this employment by major industries and gives a picture of what types of operations form the manufacturing base of each county.

Section II

MANUFACTURING IN GEORGIA: AN ATLAS BY INDUSTRY GROUP

MANUFACTURING IN GEORGIA

An Atlas by Industry Group

The series of maps which follow are based on data taken from the Directory of Georgia Manufacturers 1963-64, the background files from which the Directory was compiled by the Industrial Development Division, and also from information made available under special arrangement with the Employment Security Agency, Georgia Department of Labor.

A few words of explanation as to the general methods followed will help in the use of the maps. Readers familiar with the Directory will be aware that a great many companies are listed with more than one industry classification -- sometimes within the same major industry group, sometimes referring to a different type of product. Wherever this occurs, the employment figure for the company was divided among the different classifications in preparing the data for the Atlas. Any available information as to the proportion of employees engaged by a company on a specific product was used, of course, but many of these divisions had to be estimates. As a result, the same plant may be recorded on more than one map, but there is no duplication of employment.

It should be pointed out that, with the exception of the lumber and wood industry (see below), the data on these maps cannot be compared directly with those from the Georgia Department of Labor. In general, the Labor Department allocates the total employment of any one company on the basis of its major activity. This means that not only would the Atlas indicate employment for a company in more than one manufacturing category as against only one category recorded by the Department of Labor, but also that subsidiary manufacturing operations of a retail, wholesale, or service company would be included in the Atlas, but would not appear under manufacturing in the Department of Labor records. A further variation lies in the fact that the Labor Department lists only those companies covered by the Georgia Employment Security Law, which included only those firms with four or more employees, whereas the Directory has endeavored to include all manufacturers, regardless of size.

In the case of the lumber and wood industry, it was recognized that the Directory information on logging operations and sawmills was incomplete, and

the maps were prepared from data made available by the Employment Security Agency, Georgia Department of Labor.

Throughout the Atlas, the data for Fulton and DeKalb counties have been combined. The basic records of the Directory were assembled by cities, and a county breakdown in the immediate Atlanta area was not considered to be of sufficient value to the user to warrant the investment of time that would be involved in separating companies with an Atlanta address into Fulton or DeKalb locations.

The Directory data have been modified where new information of any significance has become available.

The maps themselves, in general, have been prepared on the basis of one map for the industry group as a whole and subsidiary maps for those parts of the industry of major importance in Georgia. Any variation in this form of presentation is commented on in the text accompanying each map.

Three industry groups -- Ordnance and Accessories, Tobacco Manufactures, and Miscellaneous Manufacturing Industries -- are not presented in map form. There are only two ordnance plants in Georgia (one in Bibb County and one in Tift County) and two tobacco manufacturers (one making cigars in Ware County and one processing cigar tobacco in Grady County).

Miscellaneous manufacturing covers a great variety of products, none of which was thought to be of sufficient importance for a separate map. The following table, however, gives a breakdown of employees and firms by the type of product manufactured.

The Atlanta Metropolitan Area (five counties) is strongly represented in all the categories shown. With the exception of zippers and morticians' goods, Atlanta accounts for at least half of each employment figure, with a combined total of approximately 3,000 workers in 78 plants.

Most of the companies are small -- sometimes just one-man operations -- but some large companies are included, such as Scripto, Inc. (Atlanta, Fulton County) -- writing instruments, cigarette lighters; Atlanta Metallic Casket Company (Villa Rica, Carroll County, and Atlanta, Fulton County) -- caskets; The Rushton Company (Atlanta, Fulton County) -- soft stuffed toys; Brunswick Sports, Inc. (Albany, Dougherty County) and Brunswick-MacGregor, Inc.

(Covington, Newton County), both divisions of The Brunswick Corporation -- golf clubs, golf balls, inflated balls, molded rubber products; Talon, Inc. (Cleveland, White County, and Decatur, DeKalb County) -- zippers; Scovill Manufacturing Company (Clarkesville, Habersham County) -- zippers. Zippers are also manufactured by Coats and Clark, Inc., in their Toccoa plant (Stephens County) in addition to sewing thread, their main product.

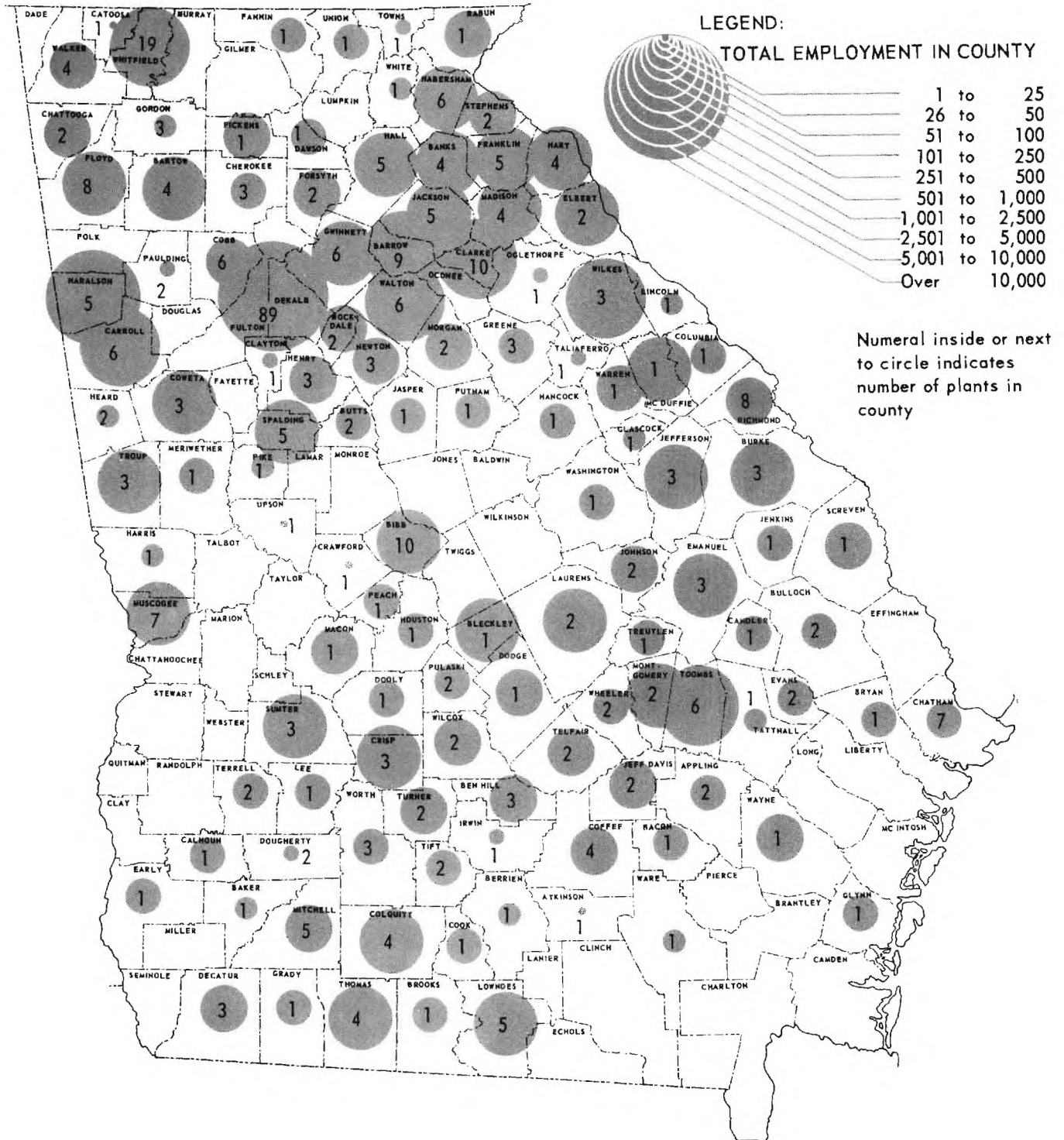
Table 8
MISCELLANEOUS MANUFACTURING INDUSTRIES

<u>Type of Product</u>	<u>Number of Firms</u>	<u>Number of Employees</u>
Pens, pencils, and other office and artists' materials	19	1,500
Toys, amusement, sporting, and athletic goods	24	1,050
Zippers, jewelry, and novelties	11	900
Morticians' goods	21	850
Signs and advertising displays	63	500
Brooms, brushes	19	300
All other miscellaneous manufacturing	<u>9</u>	<u>200</u>
Total	165*	5,300

* Adjusted for duplicate plant listings

MAP 4

APPAREL AND RELATED PRODUCTS



APPAREL AND RELATED PRODUCTS

The apparel industry is the second most important type of manufacturing in Georgia in terms of total employment. Over 57,200 persons work in 418 plants located in 122 counties throughout the state.

It is clear from the map that this industry is an important source of employment in many counties, with the greatest concentration of workers in the northern part of the state. The Fulton-DeKalb area leads in both number of companies and employees, with 89 plants providing jobs for 7,700 workers. Haralson is second with nearly 2,600 workers in five establishments. Employment in seven other counties is in the 1,000 to 2,000 range. In descending order of employment size, these are Barrow, Whitfield, Carroll, Walton, Clarke, Toombs, and Wilkes counties -- with a combined total of over 11,100 workers in the apparel industry.

Over 56% of the employment in this industry is in the manufacture of men's and boys' clothing, and a further 29% is in women's and children's apparel. Separate maps (Maps 4-A and 4-B) show the distribution of plants and employment in these two categories. The remaining 15% of employment is made up of a variety of operations and is analyzed separately below.

Miscellaneous Apparel and Related Products

This group of 153 companies makes an assortment of house furnishings, robes, gloves, textile bags, canvas products, and other miscellaneous apparel and fabricated textile products.

House furnishings are manufactured by 60 companies and include such items as draperies, curtains, bedspreads (not made in weaving mills), cushions, pillows, and dust mops. Several of the firms also make other items of both apparel and nonrelated products, so that there is some duplication in references to plants and some estimation of the employment engaged in different types of work. (See paragraph 2, page 19.) The estimated number of workers making house furnishings is 3,100; they are located in 22 counties, led by Whitfield whose thriving tufted textile industry includes the making of bedspreads. The Fulton-DeKalb area ranks second, with plants making draperies, curtains, slip covers, and mops.

Millinery is made in four companies (three in Fulton County and one in Clayton), and men's and boys' hats and caps are manufactured in five companies (four in Fulton and one in Carroll County).

Two plants in Chattooga County make work gloves, and three other glove makers are in Crawford, Floyd, and Sumter counties.

Seven companies make robes -- two each in Burke and Whitfield counties, and three others in Gordon, Spalding, and Sumter counties.

Only three plants in Georgia make rainwear. Two plants in Wilkes County are owned by the same company, and one is located in Coffee County.

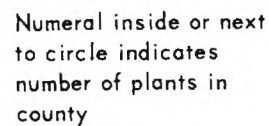
Apparel belts, handkerchiefs, vestments, and miscellaneous apparel items, such as trouser waistbands, collar interlinings, and shoulder pads, are made by 15 companies. Eight of these are in the Fulton-DeKalb area and the other seven are in Barrow, Hall, Henry, Jeff Davis, Richmond, Spalding, and Towns counties.

Two companies do quilting work -- one in Fulton and the other in Walker County.

Other fabricated textile products in this miscellaneous group include textile bags, canvas goods, automotive seat covers, flags, and drop cloths. Some 59 companies employ an estimated 1,700 workers in the production of these items. Over one third of these companies are located in the Fulton-DeKalb area; the others are dispersed throughout the state, usually in the more urban counties.

As indicated earlier, many companies make miscellaneous apparel items in conjunction with other products -- often as a side line. Some sizable establishments, however, specialize in these goods. Among the largest of these in Georgia are Best Manufacturing Company, Division of Tillotson Rubber Company (Menlo, Chattooga County) -- work gloves; Waynesboro Garment Company, Inc. (Waynesboro, Burke County) -- bathrobes, draperies; Almar Rainwear Corporation (Tignall and Washington, both in Wilkes County) -- all-weather fabric rainwear and plastic rainwear; and Art-Rich Manufacturing Company (Dalton, Whitfield County) -- tufted and terry cloth robes and jackets.

MEN'S AND BOYS' CLOTHING



APPAREL AND RELATED PRODUCTS

Men's and Boys' Clothing

There are 155 plants manufacturing men's and boys' clothing in Georgia. They are located in 78 counties and provide employment for nearly 32,300 workers.

The Fulton-DeKalb area leads in employment with nearly 2,600 workers in 10 plants. Next are Haralson, Barrow, Carroll, and Walton counties, with a combined employment of over 7,700 workers in 24 plants. Except for Atlanta, the metropolitan counties are not outstanding as employment centers. Plants of all sizes have located in rural or semi-rural areas, in many cases to take advantage of the supply of workers displaced from agricultural jobs as the farms became mechanized. Since many of the jobs in apparel factories are unskilled or semiskilled, many former farm workers are readily trained for such work.

Many of the factories make more than one type of garment, but the manufacture of shirts employs roughly one third of the workers in this industry group. Fulton County leads in employment, being the location of the largest shirt-making plant in Georgia, but there are many other sizable establishments in other areas. Five counties -- Bleckley, Emanuel, Haralson, Sumter, and Toombs -- have one or more plants with a total of more than 500 employees in shirt-making.

Over one quarter of the employees manufacturing men's and boys' clothing produce separate trousers. Nearly half these companies also manufacture other items of clothing. The largest individual company is in Haralson County, but Barrow County has more employees -- with well over 1,000 workers in trouser-making. Jackson and Walton counties also have high employment figures -- each with over 500 workers.

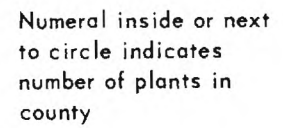
Suits and overcoats are next in employment size with more than 5,600 workers (over 17% of this industry group). The two largest plants are in Carroll and Haralson counties. Suit and overcoat workers in all plants located in these two counties account for 45% of the 5,600 workers in this type of garment making.

Work clothing manufacture accounts for another 14% of the workers in the men's and boys' clothing classification. Average plant employment is not quite

as high as in the categories mentioned above, but five counties have over 300 employees each -- Barrow, Clarke, Fulton, Hart, and Walton.

Among the major companies manufacturing men's and boys' clothing in Georgia are The Arrow Company, Division of Cluett, Peabody and Company, Inc. (Atlanta, Fulton County, and Bremen and Buchanan, both in Haralson County) -- shirts; Carwood Manufacturing Company, Division of Chadbourn Gotham, Inc. (Baldwin, Banks County; Winder, Barrow County; Lavonia, Franklin County; and two plants each in Cornelia, Habersham County, and Monroe, Walton County) -- work pants, shirts, slacks, jackets, etc.; Bremen-Bowdon Investment Company (Bowdon, Carroll County) -- suits, coats, vests, tuxedos; Sewell Manufacturing Company (Bremen, Haralson County, and Temple, Carroll County) -- suits, sports coats, pants, vests; The Manhattan Shirt Company (Americus, Sumter County, and Ashburn, Turner County) -- dress shirts, pajamas, also ladies' shirts and dresses; Georgia Converters, Inc. (Bremen, Haralson County) -- dress pants; L. and H. Shirt Company (Cochran, Bleckley County) -- dress and sport shirts; and Thomson Company (Thomson, McDuffie County; Harlem, Columbia County; and Millen, Jenkins County) -- dress slacks, also ladies' slacks.

WOMEN'S AND CHILDREN'S CLOTHING



APPAREL AND RELATED PRODUCTS

Women's and Children's Clothing

Over 16,600 workers are employed in the manufacture of women's and children's clothing in Georgia. They work in 130 plants located in 73 counties.

The Fulton-DeKalb area leads in employment with 25 plants providing jobs for 3,200 workers. Five other counties each have over 500 employees -- Bartow, Clarke, Coweta, Thomas, and Troup -- with a combined total of nearly 3,100 workers. Except for Atlanta, the metropolitan counties are not outstanding as employment centers, and, as with the men's and boys' clothing, plants of all sizes have located in rural or semi-rural areas.

Over 40% of the workers in women's and children's clothing are engaged in the manufacture of underwear, nightwear, and foundation garments. Fulton is the leading county in this category, with over 1,200 workers in five plants -- most of the employment being in one plant. Five other counties also have sizable employment figures. Bartow, Coweta, Spalding, Thomas, and Troup counties together employ nearly 2,600 workers.

Suits, skirts, coats, and other outerwear, such as sportswear, account for a further 40% of employment in women's and children's apparel. Fulton County again leads with an estimated 1,100 workers in 15 plants (many of the companies also make other types of apparel). Some 46 other plants are located in 38 counties throughout the state. In general there are fewer workers per establishment than in the underwear and foundation plants, but the size varies considerably, from operations run by three or four persons to plants employing over 300 workers.

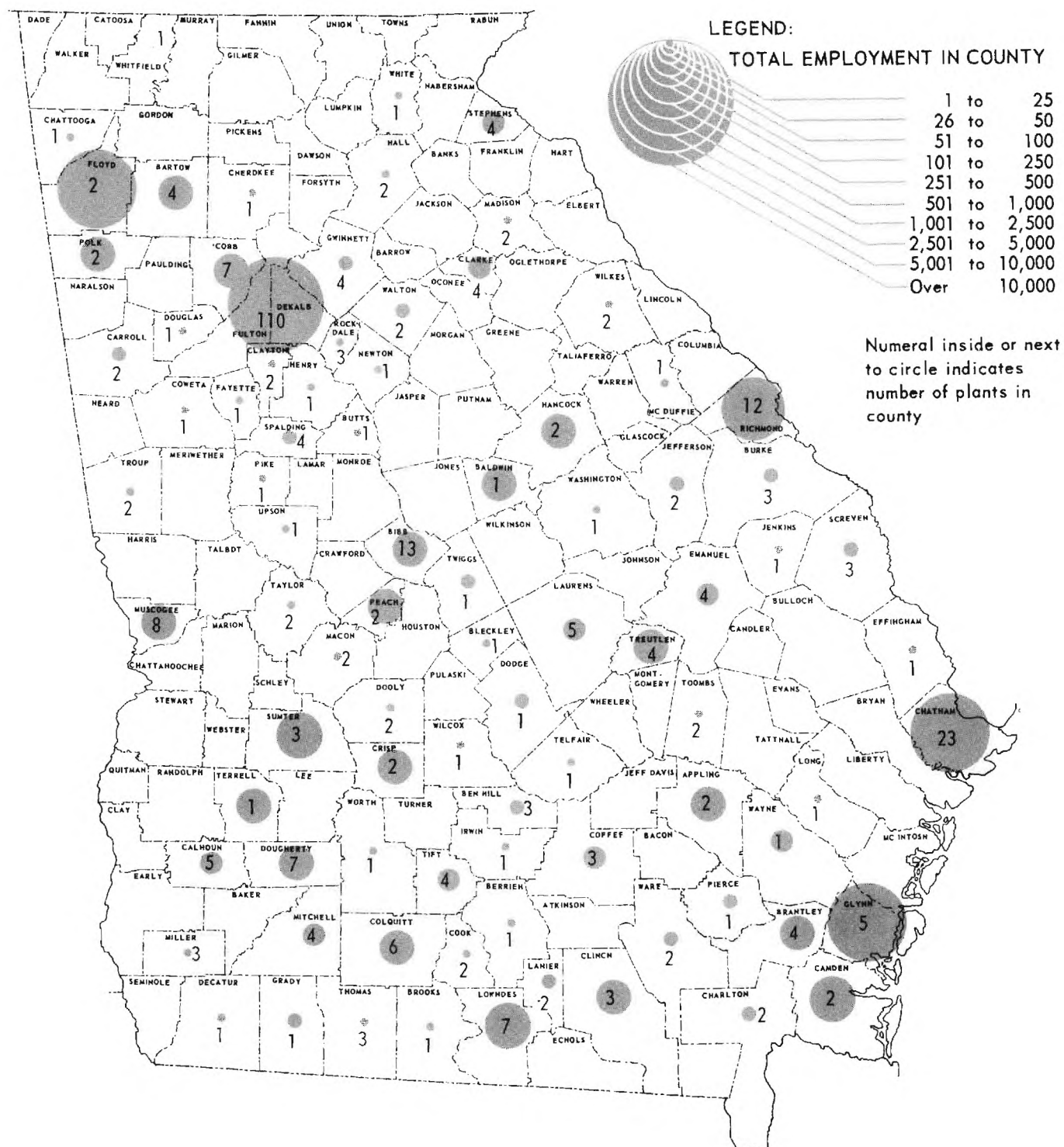
Dresses, blouses, and shirts are manufactured by 33 companies employing 3,500 persons and located in 22 counties. Ten of these operations are in Fulton County, with approximately 900 workers engaged in making this line of ladies' apparel.

Major companies in the women's and children's clothing industry in Georgia are The Lovable Company (Atlanta, Fulton County) -- brassieres, girdles, panties; International Latex Corporation (LaGrange, Troup County; Manchester, Meriwether County; and Newnan, Coweta County) -- foundation garments, shower

caps, baby pants; The Warner Brothers Company (Moultrie, Colquitt County, and Thomasville, Thomas County) -- foundation garments; Hazlehurst Manufacturing Company (Hazlehurst, Jeff Davis County, and Vidalia, Toombs County) -- lingerie; L and B Enterprises, Division of Fawn Fashions (Atlanta, Fulton County) -- children's wear; Elberton Manufacturing Company (Elberton, Elbert County) -- blouses; Thomas Textile Company, Inc. (Whitehall, Clarke County) -- infants' garments, diapers, bath items; and Griffin Garment Company (Griffin, Spalding County) -- girdles, brassieres, garter belts.

MAP 5

CHEMICALS AND ALLIED PRODUCTS



CHEMICALS AND ALLIED PRODUCTS

In 1964 the chemical industry ranked eighth in employment among the major industry groups in Georgia. Employment totaled 13,500, with 352 plants located in 87 counties.

Map 5 on the facing page shows the distribution of the total industry. One third of the plants are engaged in the production of fertilizers, and these companies are shown separately on Map 5-A.

The greatest concentration of employment in the chemical industry is in the Fulton-DeKalb area, where 110 companies employ over 3,700 workers. Floyd, Chatham, and Glynn counties are next in employment size, each with 1,200 to 1,400 workers. These five counties together account for 56% of all employment in the chemical industry.

The Atlanta area (Fulton-DeKalb) produces a wide range of chemical products, with a strong emphasis on soap, detergents, and cleaning preparations, and on paints, varnishes, and allied products. These two categories account for one half of the plants and nearly 60% of the employment. The chemical industry in Floyd County is dominated by the state's largest chemical plant, manufacturing cellulosic man-made fibers. In Glynn County, the major source of employment is the production of pine and paper chemicals. Chatham County is somewhat more diversified, with industrial inorganic chemicals, fertilizers, and gum and wood chemicals providing the bulk of the employment.

Agricultural chemicals form the largest segment of Georgia's chemical industry. This group is analyzed separately in the section on fertilizers.

The production of gum and wood chemicals ranks second in employment size, with 2,300 workers in 37 plants. This industry is concentrated in the southeastern part of the state, with Glynn County responsible for 42% of the employment. Brantley, Chatham, Clinch, Lowndes, and Treutlen counties have three plants each; Charlton, Emanuel, and Lanier have two each. Single plants are located in Appling, Ben Hill, Brooks, Coffee, Dodge, Effingham, Laurens, Long, Screven, Sumter, Telfair, Tift, Ware, and Wayne counties.

Soap, detergents, and cleaning preparations are produced by 56 companies with a total employment of 1,900. Bartow, Bibb, Burke, Chattooga, Lowndes, Rockdale, Stephens, Thomas, and White have one plant each; Cobb and Troup have

two plants each; and Chatham, Muscogee, and Richmond have three each. The other 34 plants, all located in the Fulton-DeKalb area, account for over 80% of the employees in this industry group.

Industrial chemicals also give employment to about 1,900 people. The Fulton-DeKalb area again leads with 16 plants out of a total of 42, accounting for over a third of the total employment. Chatham County, with five plants, has over 500 employees, and Richmond, with four plants, has over 200 employees. Other counties with over 100 employees are Polk, Glynn, and Bartow. Smaller plants are located in Bibb (2), Carroll, Cherokee, Cobb (2), Dougherty, Douglas, Gwinnett, Laurens, Lowndes, Ware, and Whitfield.

Although only seven companies produce plastics and synthetic man-made fibers, this industry group is important from an employment point of view since it includes the largest chemical plant in the state, located in Floyd County. Two of the other plants are in Fulton County, and Bartow, Chatham, Clayton, and Cobb have one each. Total number employed is about 1,600, with the major company accounting for 85% of the workers.

Thirty-six companies manufacture paints, varnishes, and allied products and employ a total of over 1,000 employees. The Fulton-DeKalb area has attracted 20 of these plants and gives employment to two thirds of the workers. Glynn County, with two plants, and Stephens County, with three, have about 100 employees each. Other counties with more than one plant are Chatham (3), Bibb (2), and Gwinnett (2). Cobb, Emanuel, Lowndes, and Rockdale counties have one plant each.

Drugs, including various pharmaceutical products, are prepared by 17 companies with a total of 500 workers. Over 40% of the employees are in nine companies located in the Fulton-DeKalb area. Bibb County has two small companies, and Baldwin, Chatham, Coffee, Dougherty, Muscogee, and Worth have one firm each.

There are 16 manufacturers of printing ink in the state, with all but five located in the Fulton-DeKalb area. Camden, Chatham, Clarke, Gwinnett, and Twiggs counties have one company each. Twiggs County has the largest company, with over 300 employees (none of the others has more than 50), but this firm also refines kaolin clay.

Glue, gelatin, and adhesives are made by 10 companies. These are all small operations, often combined with other products. Half the companies are in Fulton-DeKalb, two are in Lowndes County, and Clayton, Cobb, and Rockdale counties have one plant each.

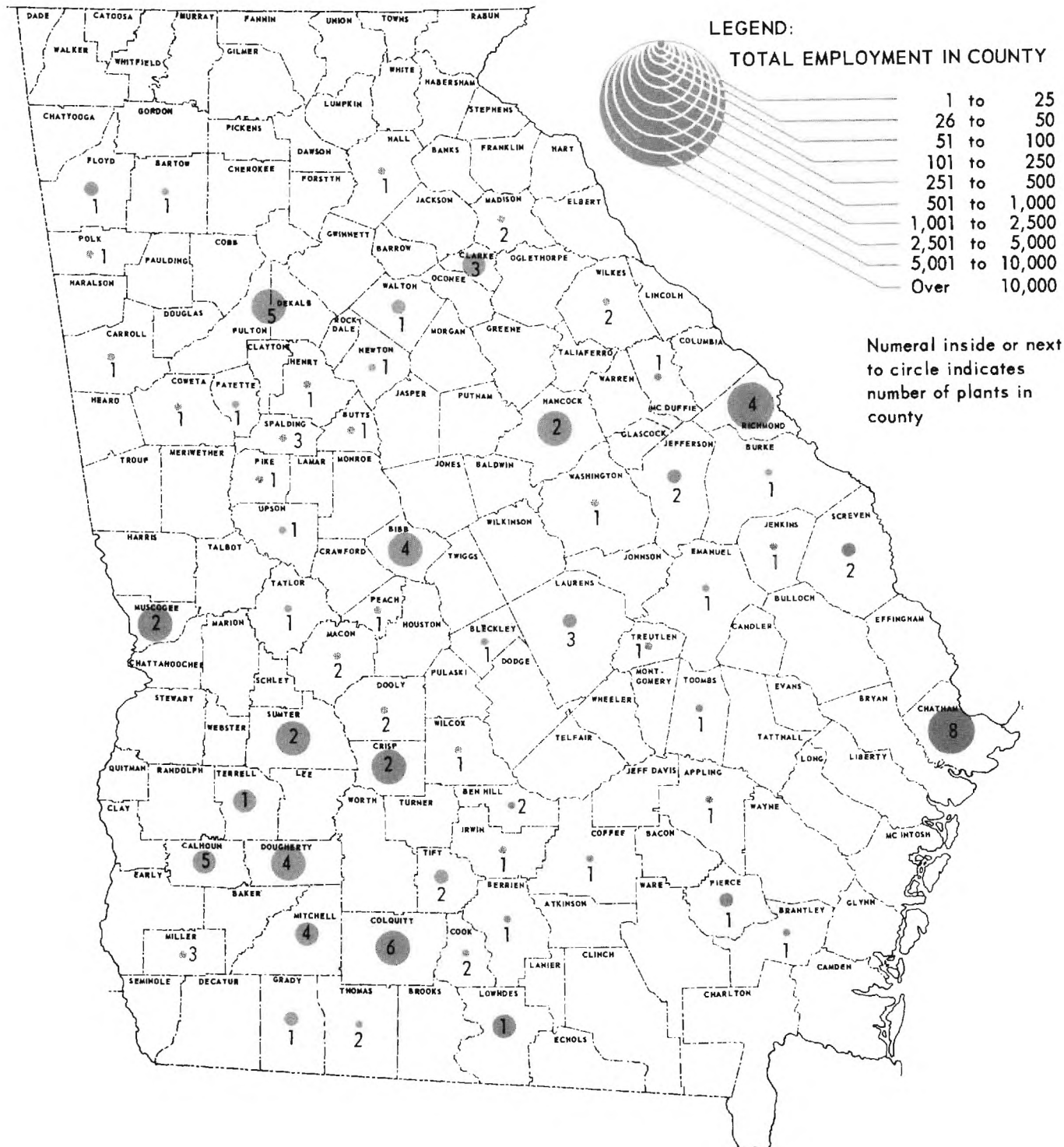
Eight companies make penetrants, wetting agents, and emulsifiers. Only two of these companies have more than 50 employees, and in these production is combined with other items. Fulton County has two plants, and Bibb, Cobb, Hall, Muscogee, Richmond, and Rockdale have one each.

Two small companies in Fulton County make toilet preparations; a third is located in Savannah (Chatham County).

The remaining chemical companies manufacture miscellaneous products such as water-treating compounds and bleaching agents. They are all small, with one important exception -- the Thiokol Chemical Corporation in Camden County, which produces missile fuel.

Other large firms in Georgia's chemical industry include American Cyanamid Co., Pigments Division (Savannah, Chatham County) -- industrial inorganic chemicals; Celanese Fibers Co., Division of Celanese Corporation of America (Rome, Floyd County) -- rayon and acetate yarns; and Hercules Powder Co., Inc. (Brunswick, Glynn County) -- pine and paper chemicals.

MAP 5-A FERTILIZERS



CHEMICALS AND ALLIED PRODUCTS

Fertilizers

Over 20% of the employees in Georgia's chemical industry are engaged in producing fertilizers. There are 113 plants in the state giving employment to more than 3,000 people in 60 counties. Many of the companies mix the fertilizer from purchased materials, but there are 22 plants that manufacture basic fertilizer materials, with a total employment of over 1,300. Chatham County has five of these 21 plants, with more than 300 employees. Other plants are located in Bartow, Bibb (2), Carroll, Clarke, Colquitt, Cook, Crisp (2), Floyd, Fulton, Lowndes, Mitchell, Muscogee, Richmond (2), and Sumter.

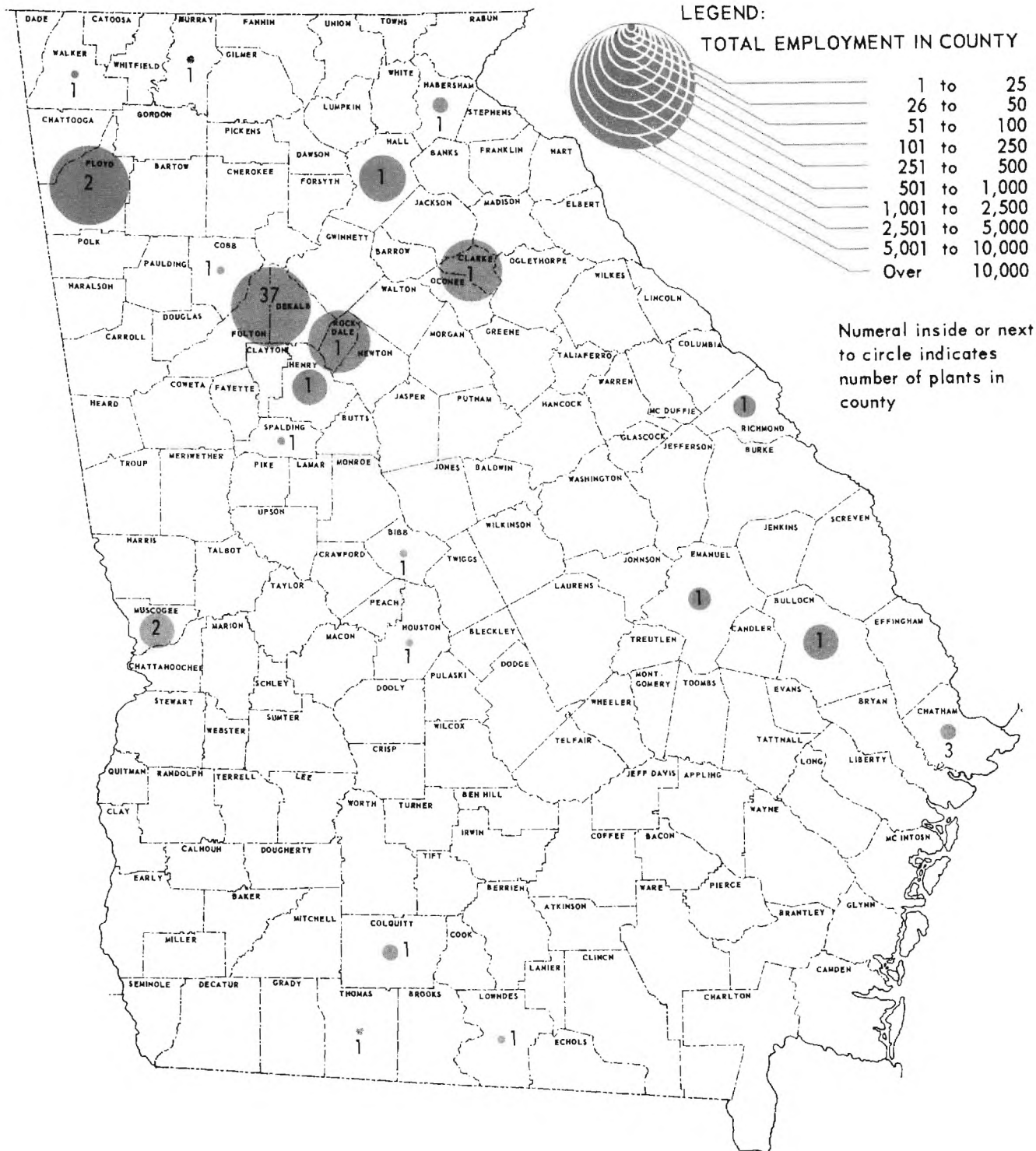
Most of the mixing plants are comparatively small operations. One or two larger companies also have other functions, such as the preparation of feed, peanut butter, and vegetable oils. On the accompanying map the number of employees engaged in the fertilizer section of these companies has been estimated.

Agricultural pesticides, usually classified with fertilizers as part of the agricultural chemical group, are of only minor importance in Georgia. There are 13 companies preparing pest-control chemicals, and five of these also produce other commodities, such as fertilizers and cleansers. Fulton County has three plants, and Berrien, Bibb, Burke, Decatur, Muscogee, Peach, Richmond, Rockdale, Terrell, and Tift counties have one each, with the largest operations being in Peach and Terrell. Pesticide companies that also produce fertilizers are recorded on Map 5-A with an appropriate proportion of the total company employment. All others form part of the total chemical picture on Map 5.

Major fertilizer companies in the state include International Minerals and Chemical Corporation (Americus, Sumter County); The Tennessee Corporation (East Point, Fulton County); and Southern Nitrogen Company (Savannah, Chatham County).

MAP 6

ELECTRICAL MACHINERY



ELECTRICAL MACHINERY

The 61 electrical machinery companies in Georgia employ 5,800 persons. Although the firms are located in 22 counties, by far the greatest concentration is in the Fulton-DeKalb area, where 37 plants give employment to 2,300 workers -- 61% of the total plants in the state and 40% of the workers. Floyd, Rockdale, and Clarke counties are next in employment size; together, these three counties, with a total of four plants, employ 39% of the industry's workers.

Nearly half the workers in this industry are engaged in the manufacture of electric transmission and distribution equipment. There are 11 plants in this category -- seven of them in the Fulton-DeKalb area and the other four in Clarke, Floyd, Henry, and Muscogee counties.

Six of the nine companies making storage batteries are in the Fulton-DeKalb area, and Bibb, Chatham, and Muscogee counties have one plant each. Total number of workers for the nine plants is slightly over 500, of which 87% is in the Fulton-DeKalb area.

Electrical industrial apparatus is made by six companies with a combined employment of nearly 600. Three of the plants are in the Fulton-DeKalb area, and the other three are in Chatham, Colquitt, and Hall counties.

Four companies make household appliances -- two in the Fulton-DeKalb area and one each in Lowndes and Walker counties. These are small operations with a combined employment of less than 100 workers.

Five companies in the Fulton-DeKalb area make lighting fixtures, and a sixth is in the adjacent county of Rockdale. Total employment in the six plants is over 700 workers.

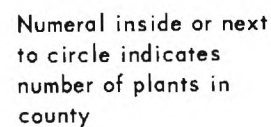
TV picture tubes are made by five companies, with a total employment of about 150. Two companies are in Fulton-DeKalb and one each in Richmond, Spalding, and Thomas counties.

Four of the manufacturers of radio and television receiving and communication equipment are in the Fulton-DeKalb area. Two other plants are in Floyd and Murray counties. Total employment for the six companies is 400 workers.

In addition to the foregoing, a miscellaneous variety of electronic components and electrical equipment is produced in a dozen other companies throughout the state. Fulton-DeKalb again ranks first in number of plants, with six out of the 12 plants. Electronic components are also made in Bulloch, Cobb, and Houston counties, and electrical equipment is made in plants in Chat-ham, Emanuel, and Habersham counties.

Plant size in this major industry group varies from a two- to three-man operation to plants employing several hundred workers. In descending order of employment size, the major producers of electrical machinery in the state are General Electric Company, Medium Transformer Department (Rome, Floyd County) -- medium power transformers; Lithonia Lighting, Inc. (Conyers, Rockdale County) -- fluorescent lighting fixtures; Westinghouse Electric Corporation, Trans-former Division (Athens, Clarke County) -- transformers; Southern States, Inc. (Hampton, Henry County) -- high voltage electric power equipment; and Walker Division, ITE Circuit Breaker Company (Atlanta, Fulton County) -- electric service equipment.

FABRICATED STRUCTURAL METAL PRODUCTS



FABRICATED METAL PRODUCTS

The manufacture of fabricated metal products in Georgia shows continued growth each year. There are now 376 plants in 60 counties of the state, with a total of 13,200 workers.

While metal products are fabricated in plants throughout the state, the greatest concentration by far is in the Fulton-DeKalb area, with nearly 40% of the plants and over one third of all the employment in this industry.

For the purpose of presentation, fabricated structural metal products are shown on one map and all other fabricated metal products on a second map. There is very little overlapping between the two maps. Only 11 plants are listed as manufacturing both structural and nonstructural metal products, and these plants are recorded on both maps, with employment divided according to type of product.

Fabricated Structural Metal Products

Fabricated structural metal products include fabricated structural steel; metal doors, sash, frames, molding, and trim; fabricated plate work (boiler shops); sheet metal work; and architectural and miscellaneous metal work. Nearly 7,300 workers in 271 plants are employed in this type of production. Although one or more plants are located in 48 counties, the major concentration is in the Fulton-DeKalb area, where 100 companies employ over 2,700 workers. Chatham, Bibb, and Glynn counties follow in employment size, with a combined total of 53 plants employing 1,700 workers.

Sheet metalworking is done by 129 out of the 271 plants manufacturing structural metal products. Most of these are small companies employing under 25 workers. Two plants have over 100 workers each, but both of these have additional lines of production.

Makers of metal doors, sash, frames, molding, and trim also tend to be small operations. However, two large operations -- one making metal moldings and the other aluminum entrances and store fronts -- have a combined employment of well over 1,000 workers, while a third plant manufacturing aluminum windows and doors has nearly 200 employees.

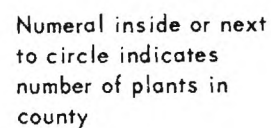
Thirty-six companies fabricate structural steel, with half of them also producing other items -- chiefly other fabricated metal products, but also including the manufacture of tools and machine shop and repair work. Five companies have over 100 employees each, but none of the five limit production just to structural steel.

There are 20 boiler shops doing plate work, seven of which are also concerned with other items of production, such as small machines and tools. Five of the boiler shops have over 100 workers each (with a combined employment of over 1,000), and in this group all but one concentrate on the manufacture of boilers, tanks, and similar products.

The last classification of structural metal products comprises architectural and miscellaneous metal work such as staircases, gratings, and ornamental iron work. Only eight companies in this group have over 25 employees. One of these has over 100 employees, but its main manufacturing operation is in structural steel.

Among the larger firms in the state fabricating structural metal (some of them, as indicated, also making other products) are Savannah Machine and Foundry Company (Savannah, Chatham County) -- ductile and grey iron, brass, aluminum, and structural steel items and shipbuilding, repairs, and conversions; Thompson Industries, Inc. (Valdosta, Lowndes County) -- metal molding; Amarlite Corporation (Atlanta, Fulton County) -- aluminum entrances and store fronts; The Babcock and Wilcox Company (Brunswick, Glynn County) -- fabricated steel boilers, parts; Lockheed Nuclear Laboratories, Lockheed-Georgia Company (Dawsonville, Dawson County) -- nuclear reactors and instrumentation; and Waycross Machine Shop (Waycross, Ware County) -- structural steel, tools, machine repair.

FABRICATED NONSTRUCTURAL METAL PRODUCTS



FABRICATED METAL PRODUCTS

Fabricated Nonstructural Metal Products

Companies in the fabricated nonstructural metal products group include manufacturers of metal cans; cutlery; hand tools and saws; miscellaneous hardware; heating and plumbing fixtures; screw machine products; metal stampings; coating, engraving, and allied services; miscellaneous fabricated wire products; metal drums, pipes, and pipe fittings; and other miscellaneous fabricated metal products.

Nearly 6,000 workers are employed in 116 plants located in 39 counties. The five-county Atlanta Metropolitan Area has exactly half of the plants and over one third of the employees. Three other counties have sizable employment -- Putnam, Lowndes, and Carroll. The six companies in these counties employ a total of nearly 1,700 workers.

Metal stampings are produced by 34 firms, but 22 of them also combine this work with other manufacturing. The 12 companies that concentrate their operations on metal stamping, however, include six firms with a combined employment of over 2,100 workers. Two of these companies are in Fulton County, and the others are in Carroll, Coweta, Lowndes, and Putnam counties.

There are 14 companies doing coating, engraving, and allied work, with a combined employment of nearly 500 workers. Although nine of these companies are in the Fulton-DeKalb area, these nine employ less than 30% of the workers. Other companies are located in Cook, Carroll, Gwinnett, Floyd, and Henry counties -- in descending order of employment size.

Metal cans are produced in six counties -- Chatham, Clayton, Clinch, Fulton, Haralson, and Muscogee -- with a total of 900 workers. Three companies account for 95% of this employment -- American Can Company (with branches in Chatham, Clayton, and Muscogee counties), Crown Cork and Seal Company (Atlanta, Fulton County), and Standard Container Company (Homerville, Clinch County).

Heating and plumbing fixtures are made by nine companies in Burke, Chatham, Colquitt, Dougherty, Floyd, and Fulton (4) counties, with a combined employment of over 600 workers.

Six companies make hand tools, cutlery, or miscellaneous hardware items -- four in the Fulton-DeKalb area and one each in Carroll and Tattnall counties. Five companies -- in Cobb, Douglas, Fulton (2), and Whitfield counties -- make various screw machine items.

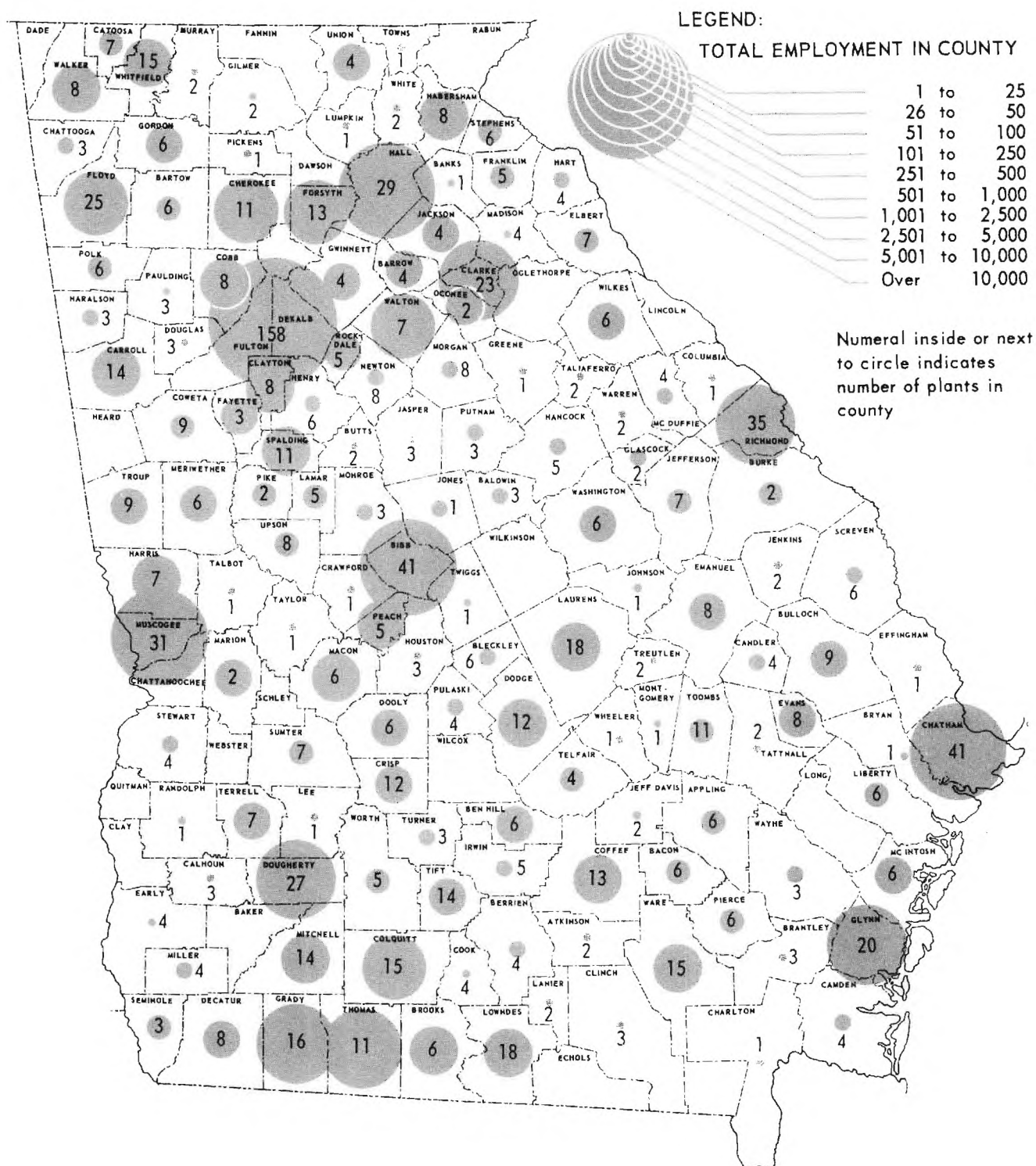
Seven out of 13 manufacturers of miscellaneous fabricated wire products are in the Fulton-DeKalb area, the others being in Catoosa, Chatham, Laurens, Meriwether, and Newton (2) counties.

Fabricated pipe, tubing, and fittings and valve and pipe fittings are made by 15 companies with a combined employment of between 300 and 400 workers, most of whom are in the nine companies in the Fulton-DeKalb area.

Rounding out the picture of Georgia's nonstructural metal fabricators are 23 companies producing a miscellaneous assortment of drums, springs, and other small metal fabricated parts. Six of these companies are in the Fulton-DeKalb area, with the rest well scattered throughout the state.

In addition to the metal can manufacturers already mentioned, larger companies in this industry grouping include B and C Metal Stamping Company (Atlanta, Fulton County) -- steel and aluminum electrical enclosures, meter boxes, transformer cases, etc.; Bridgeport Brass Company (Moultrie, Colquitt County) -- plumbing equipment; Douglas and Lomason Company (Carrollton, Carroll County, and Newnan, Coweta County) -- automobile trim; The Enterprise Aluminum Company (Eatonton, Putnam County) -- aluminum cooking utensils and houseware; Larkin Coils, Inc. (Atlanta, Fulton County) -- heat transfer equipment; Metal Products, Inc., Division of Thompson Industries, Inc. (Valdosta, Lowndes County) -- trim moldings; and Production Plating Company (Adel, Cook County) -- plating and anodizing of auto trim.

MAP 8
FOOD AND KINDRED PRODUCTS



FOOD AND KINDRED PRODUCTS

The food industry is the third most important type of manufacturing in Georgia in terms of total employment. Over 50,000 persons work in 1,127 plants located in 142 counties throughout the state.

As can be seen from the accompanying map, the heaviest concentrations of employment are in the urban centers. The Fulton-DeKalb area leads with roughly one quarter of the workers in this industry. Muscogee County is next with nearly 4,100 workers, followed by Chatham, Bibb, and Hall counties. Together these six counties provide work for 50% of the food manufacturing employees in the state.

In addition to the picture of the total industry presented in Map 8, the locations of plants in five groups of food products are given on subsidiary maps: Map 8-A -- meat, poultry, and seafood; Map 8-B -- dairy products; Map 8-C -- grain mills; Map 8-D -- bakery and confectionery products; Map 8-E -- beverages. A miscellaneous group of food processing plants is analyzed separately below.

Miscellaneous Food Products

Included in the miscellaneous food products group are manufacturers engaged in canning and preserving fruits and vegetables, producing animal and vegetable fats and oils, refining sugar, manufacturing ice, and making flavorings and other miscellaneous food products. Some 231 plants employ approximately 10,300 workers in 90 counties throughout the state. The main job centers are again concentrated in the urban counties -- Fulton, DeKalb, Chatham, Bibb, Muscogee -- with heavy seasonal work in Grady County.

There are 52 plants engaged in the canning and preserving of fruits and vegetables. Produce is canned, pickled, or manufactured into jams, jellies, sauces, syrups, juices, etc. Three companies handle dried fruits and vegetables, and five preserve the produce by freezing. Much of the work is seasonal and employment varies from 2,000 to 2,500 in the off-season to 5,000 or more at the peak of the harvests.

Some of the larger companies in Georgia's fruit and vegetable industry are Joseph Campbell Company, Division of Campbell Soup Company (Cairo, Grady

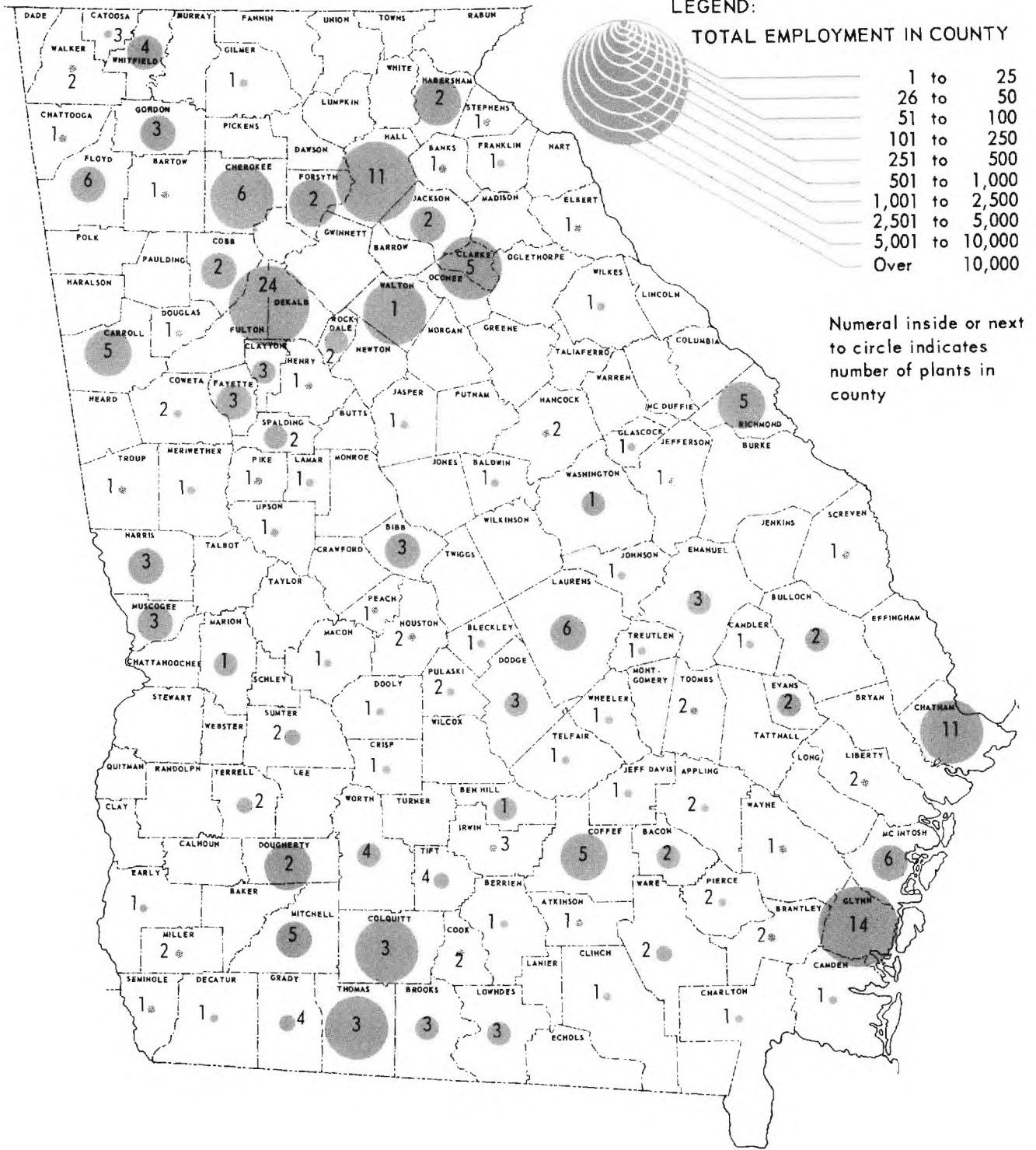
County, and Blairsville, Union County) -- vegetable processing; Cairo Pickle Company, Inc. (Cairo, Grady County) -- pickles, relishes; Kraft Foods Division, National Dairy Products Corporation (Decatur, DeKalb County) -- process cheese, salad products, margarine; Southern Frozen Foods (Montezuma, Macon County) -- frozen fruits and vegetables; Bateman Canning Company (Macon, Bibb County) -- canned fruits and vegetables; Southern State Canning Company (Fort Valley, Peach County) -- canned peaches; and Blue Plate Division, Hunt Foods and Industries, Inc. (Atlanta, Fulton County) -- mayonnaise and salad dressing.

Manufacturing and refining of animal and vegetable fats and oils are done by 33 companies, employing between 1,600 and 1,700 workers. The major companies are located in the urban centers of the state. In addition to Kraft Foods in DeKalb County (mentioned above in the fruit and vegetable industry), other large companies include Swift and Company with a refinery in Atlanta and oil mills in East Point (Fulton County), Augusta (Richmond County), and Albany (Dougherty County) and Wesson Division, Hunt Foods and Industries, Inc. (Savannah, Chatham County) -- vegetable oils and shortening, cottonseed and soybean products.

Ice is manufactured by 93 companies throughout the state. The average employment in these plants is small, with the combined work force for the 93 firms being slightly over 1,000 persons.

Except for Georgia's one sugar refinery -- Savannah Sugar Refining Corporation in Chatham County (one of the largest companies in this miscellaneous group of food industries) -- the remaining companies are those preparing a miscellaneous assortment of flavorings, honey, coffee, vinegar, peanut butter, popcorn, potato chips, and all kinds of snacks. Many of the 62 companies producing these items also have other food lines. Nearly all of them are located in the metropolitan counties of the state, with the Atlanta area leading with an estimated 2,400 workers producing these miscellaneous food items in 35 plants. Major companies are Gordon Foods Division, Sunshine Biscuits, Inc. (Atlanta, Fulton County) -- potato chips, snacks; and Frito-Lay, Inc. (Chamblee, DeKalb County) -- potato chips, snacks, peanut processing.

MEAT, POULTRY, AND SEAFOOD



FOOD AND KINDRED PRODUCTS

Meat, Poultry, and Seafood

Over 30% of Georgia's food industry workers are engaged in processing meat, poultry, and seafood. The 261 plants, employing 15,400 workers, are located in 101 counties. Hall County, the Fulton-DeKalb area, and Glynn County (in that order) lead in total employment. Together those four counties employ over 5,500 workers. Next in order of employment size are Clarke, Thomas, Cherokee, Chatham, Walton, and Colquitt counties, with a combined employment of nearly 4,000 workers.

Although there are only 52 plants engaged in the processing of poultry, they account for roughly half the total employment of the meat, poultry, and seafood industry group. Hall County, with between 2,100 and 2,200 workers, is still the most important center for poultry processing, but other counties are increasing the size of their operations. Fulton, Clarke, Cherokee, and Walton counties have between 500 and 1,000 employees each in this branch of the food industry.

Georgia has 94 meat-packing plants employing 3,800 workers. Most are small operations located in both medium-sized and large cities. Only five plants have more than 100 employees -- in Colquitt, Dougherty, Gordon, Muscogee, and Thomas counties. Together these five plants employ over 1,600 workers.

Prepared meat manufacturing also tends to be a small-company operation. The 87 plants in Georgia employ less than 1,600 workers. Only two companies, both in Fulton County, have more than 100 employees.

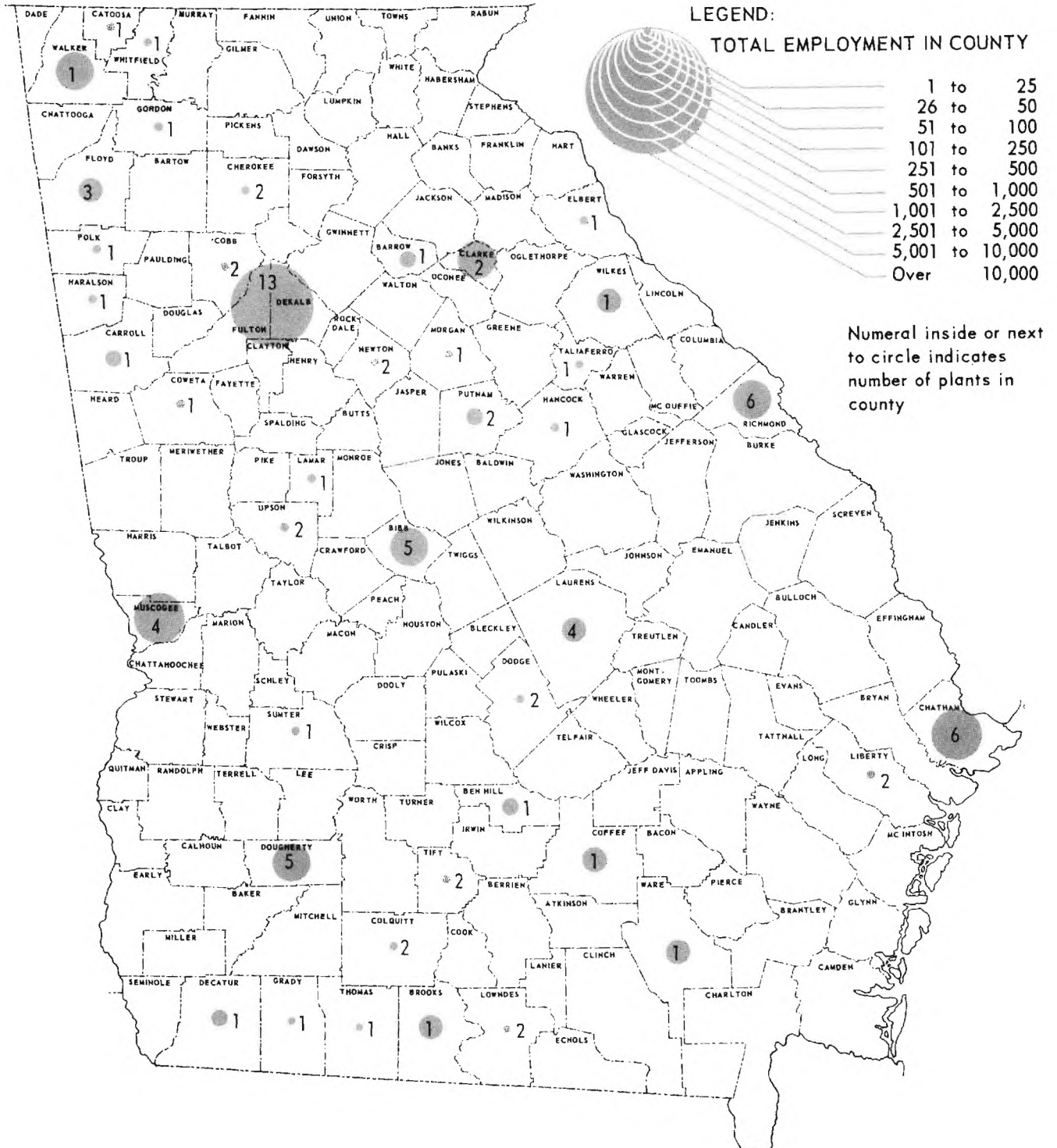
Glynn County is the center of the seafood processing industry. The 13 plants in Brunswick employ 1,600 workers -- nearly 70% of the total employment in this work. Chatham and McIntosh counties account for all the remaining employment, with the exception of four small operations in Camden, Douglas, Jasper, and Liberty counties.

There are 43 plants in the meat, poultry, and seafood industry which employ more than 100 workers each. Among the largest companies (each employing over 500) are Swift and Company -- with a meat packing plant in Moultrie (Colquitt County), meat processing operations in Atlanta (Fulton County) and Augusta

(Richmond County), and poultry processing operations in Douglas (Coffee County) and Gainesville (Hall County); Sunnyland Packing Company (Thomasville, Thomas County) -- meat products; Colonial Poultry Company, Division of Cotton Producers Association (Athens, Clarke County) -- chicken processing; J. D. Jewell, Inc. (Gainesville, Hall County) -- frozen poultry products; Southern Poultry Company, Inc. (Monroe, Walton County) -- dressed and frozen poultry; and Sea Pak Corporation (St. Simons Island, Glynn County) -- frozen seafoods.

MAP 8-B

DAIRY PRODUCTS



FOOD AND KINDRED PRODUCTS

Dairy Products

There are 91 companies manufacturing dairy products in Georgia, with a total employment of more than 4,300 workers. Although one or more firms are located in 43 counties, the industry is strongly market-oriented. Nearly 40% of the workers hold jobs in the Fulton-DeKalb area. Six other metropolitan counties -- Bibb, Chatham, Dougherty, Muscogee, Richmond, and Walker^{1/} -- plus Clarke County account for a further 37% of employees.

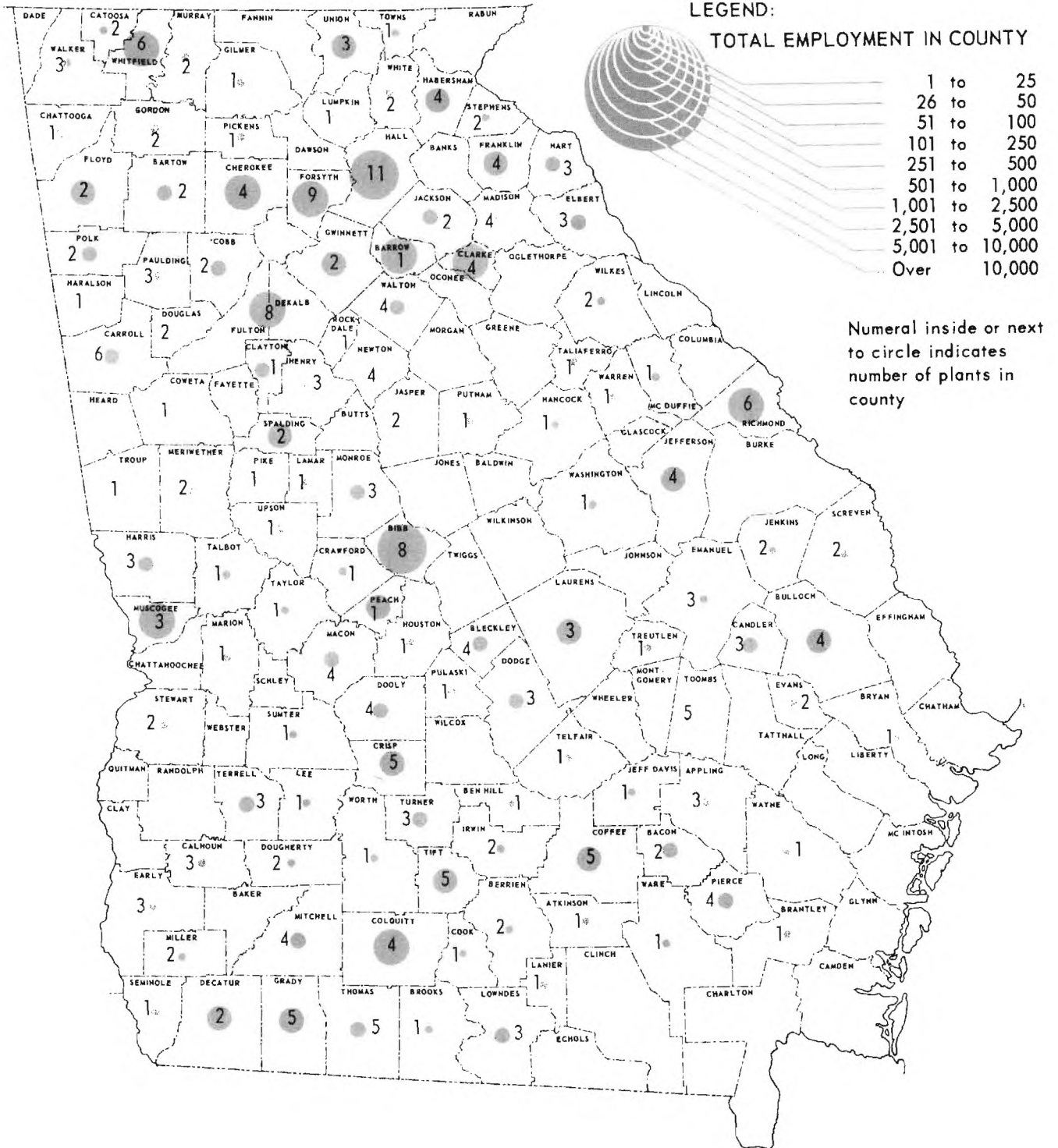
Over 90% of the dairy products workers are engaged in the processing of fluid milk or the making of ice cream (17 of the 85 companies in this category handle both products). Most of these firms are small, but there are 10 companies with over 100 workers -- five in the Fulton-DeKalb area, two in Muscogee County, and one each in Clarke, Richmond, and Walker counties. Together these 10 companies employ nearly 2,100 workers.

Other dairy products processed in Georgia are butter (two companies in Bibb and Chatham counties), natural cheese (two companies in Morgan and Polk counties), and condensed and evaporated milk (three companies in DeKalb, Cobb, and Hancock counties). In addition, Kraft Foods Division, National Dairy Products Corporation in Decatur (DeKalb County), one of the largest food companies in Georgia, manufactures processed cheese, and part of its employment, therefore, is attributable to dairy products.

Five other companies in dairy products manufacturing have reached an employment level of over 200 workers. These are Happy Valley Farms (Rossville, Walker County); Irvindale Farms (Atlanta, Fulton County); Miss Georgia Dairies, Inc. (Atlanta, Fulton County); Sealtest Foods Division, National Dairy Products Corporation (Atlanta, Fulton County, and smaller operations in Muscogee and Richmond counties); and Wells Dairy Cooperative (Columbus, Muscogee County).

^{1/} Part of Chattanooga Metropolitan Area.

MAP 8-C GRAIN MILLS



FOOD AND KINDRED PRODUCTS

Grain Mills

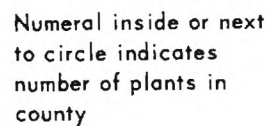
One or more grain mills are located in 117 of Georgia's counties. Average employment per establishment is small, with 297 mills providing jobs for just over 4,800 workers.

Except for four mills producing blended and prepared flour and one wet corn milling operation (making starch), all the Georgia mills manufacture flour or meal from grain or prepare feeds for animals and fowls. Many of the mills handle both types of manufacturing.

Leading counties for grain mill employment are Bibb and Hall. Nineteen mills in these two counties employ 800 workers. The 10 counties next in employment size are, in descending order, Richmond, Barrow, Fulton-DeKalb, Forsyth, Clarke, Cherokee, Colquitt, Muscogee, and Whitfield. Combined employment in these 10 counties is 1,300 workers.

Major grain mill operations in the state are Birdsey Flour and Feed Mills (Macon, Bibb County) -- flour foods, corn meal; Harrison Poultry, Inc. (Bethlehem, Barrow County) -- feed, hatchery; Juliette Milling Company (Macon, Bibb County) -- animal feeds; and Ralston Purina Company (Macon, Bibb County; Athens, Clarke County; Gainesville, Hall County) -- feeds.

BAKERY AND CONFECTIONERY PRODUCTS



FOOD AND KINDRED PRODUCTS

Bakery and Confectionery Products

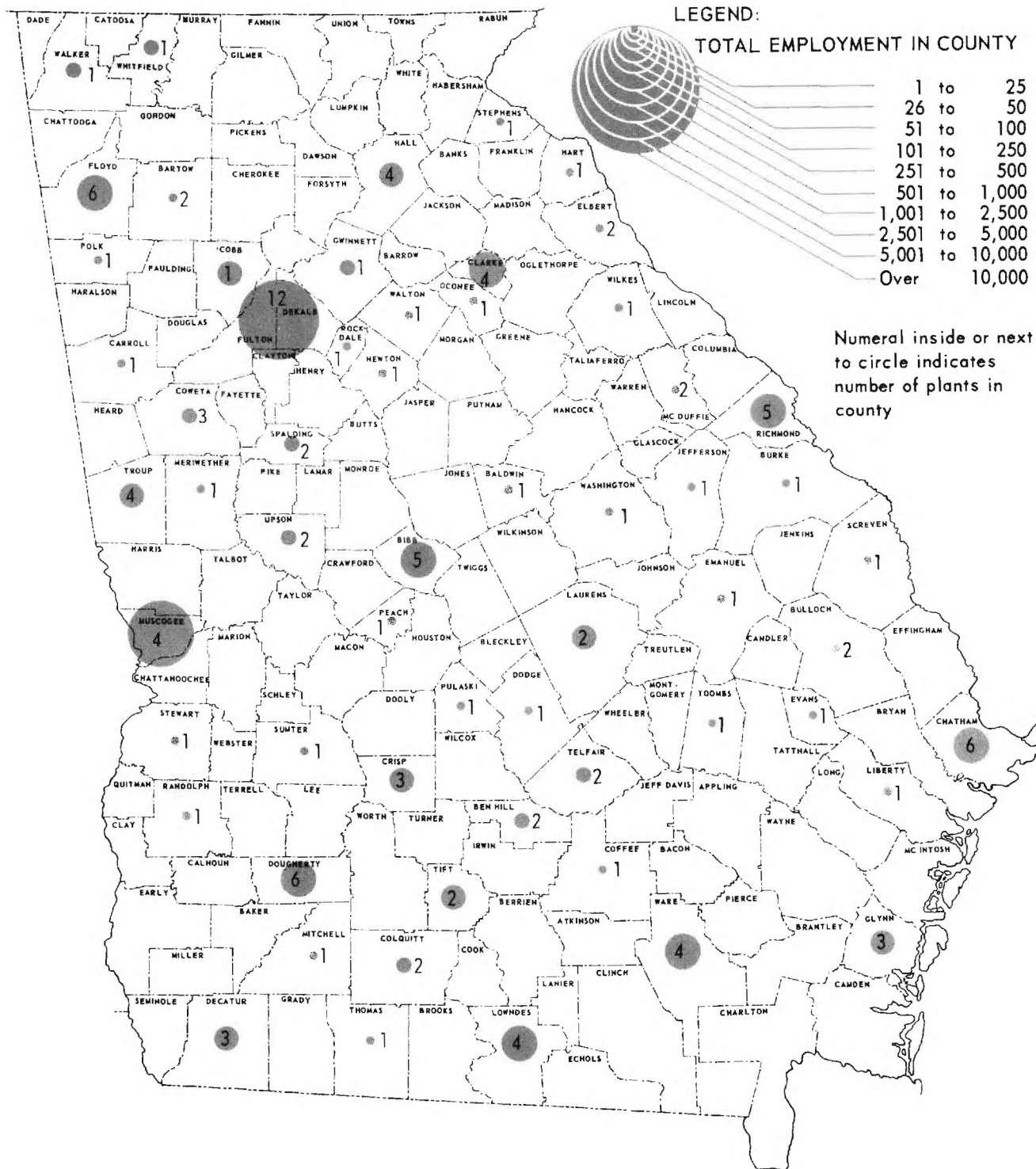
There are now 152 manufacturers of bakery and confectionery products in Georgia, with a total employment of over 11,000 workers. Although one or more establishments are located in 44 counties, only 12 counties have more than 100 employees in this industry.

The main concentration is in the Fulton-DeKalb area where 48 companies employ over 4,300 workers -- nearly 40% of the industry's total. Muscogee ranks second with 2,300 employees, followed by Richmond with between 1,000 and 1,100 and Bibb with slightly more than 900. Two other metropolitan counties are next -- Chatham with nearly 500 workers and Dougherty with between 300 and 400.

Many of the bakeries are small operations, particularly in the more rural counties, but several large companies are established in the densely populated areas. There are 16 companies with employment ranging between 200 and 1,600 workers. Half of these are in the Fulton-DeKalb area, Muscogee and Richmond have two each, and the other four are in Bibb, Chatham, Dougherty, and Thomas counties. These 16 companies account for over 60% of the total employment in this industry.

Included in the top employers are American Bakeries Company (Atlanta, Fulton County; Augusta, Richmond County; and Macon, Bibb County) -- bread, rolls, and cakes; Tom Houston Peanut Company (Columbus, Muscogee County) -- confections; National Biscuit Company (Atlanta, Fulton County) -- crackers, biscuits, cookies; and Sunshine Biscuit Company (Columbus, Muscogee County) -- crackers and cookies.

MAP 8-E
BEVERAGES



FOOD AND KINDRED PRODUCTS

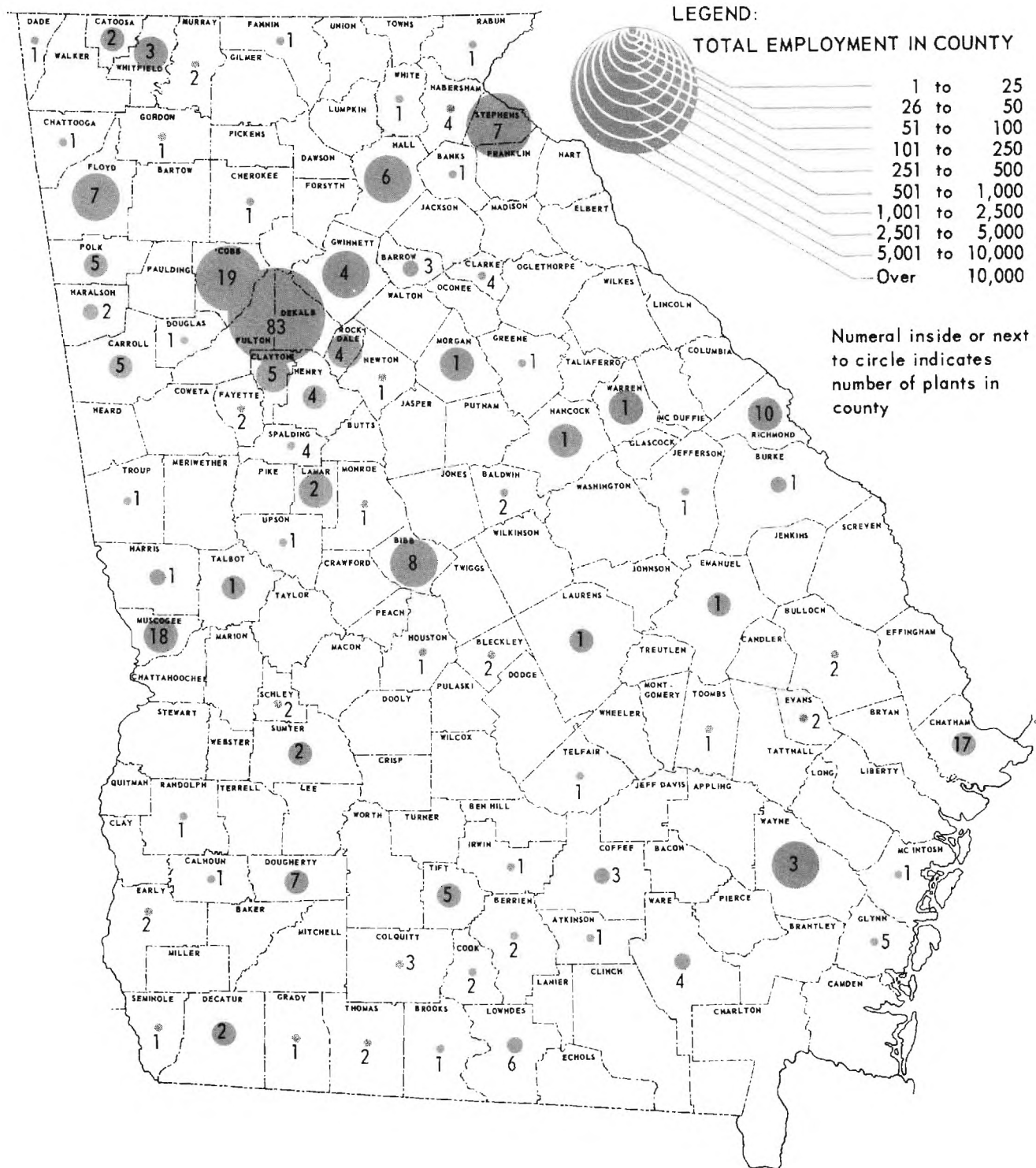
Beverages

There are 130 companies in Georgia's beverage industry, with a total of over 4,800 workers.

With the exception of three companies, all the plants are engaged in bottling or canning soft drinks. The exceptions are The Carling Brewing Company (Atlanta, Fulton County); Viking Distillery, Inc. (Albany, Dougherty County) -- maker of "Georgia Moon"; and Monarch Wine Company of Georgia (Atlanta, Fulton County).

The soft-drink plants are dispersed throughout the state in 59 counties. Most are small companies, and it is clear from the map that they tend to concentrate in the more urban counties. Two major soft-drink companies, however, have their headquarters in Georgia -- The Coca-Cola Company (Atlanta, Fulton County) and Royal Crown Cola Company (Columbus, Muscogee County).

MAP 9 FURNITURE AND FIXTURES



FURNITURE AND FIXTURES

Georgia has nearly 9,500 workers engaged in the manufacture of furniture and fixtures in 322 plants located in 79 counties. Map 9 shows the location of all furniture operations, and Map 9-A pulls out makers of household furniture -- the most important segment of the industry.

The major concentration of employment is in the Fulton-DeKalb area, where 83 plants give work to nearly 3,200 persons. The adjacent county of Cobb is next in employment size, followed closely by Stephens County in the northeast. Both these counties have over 900 workers in the furniture industry.

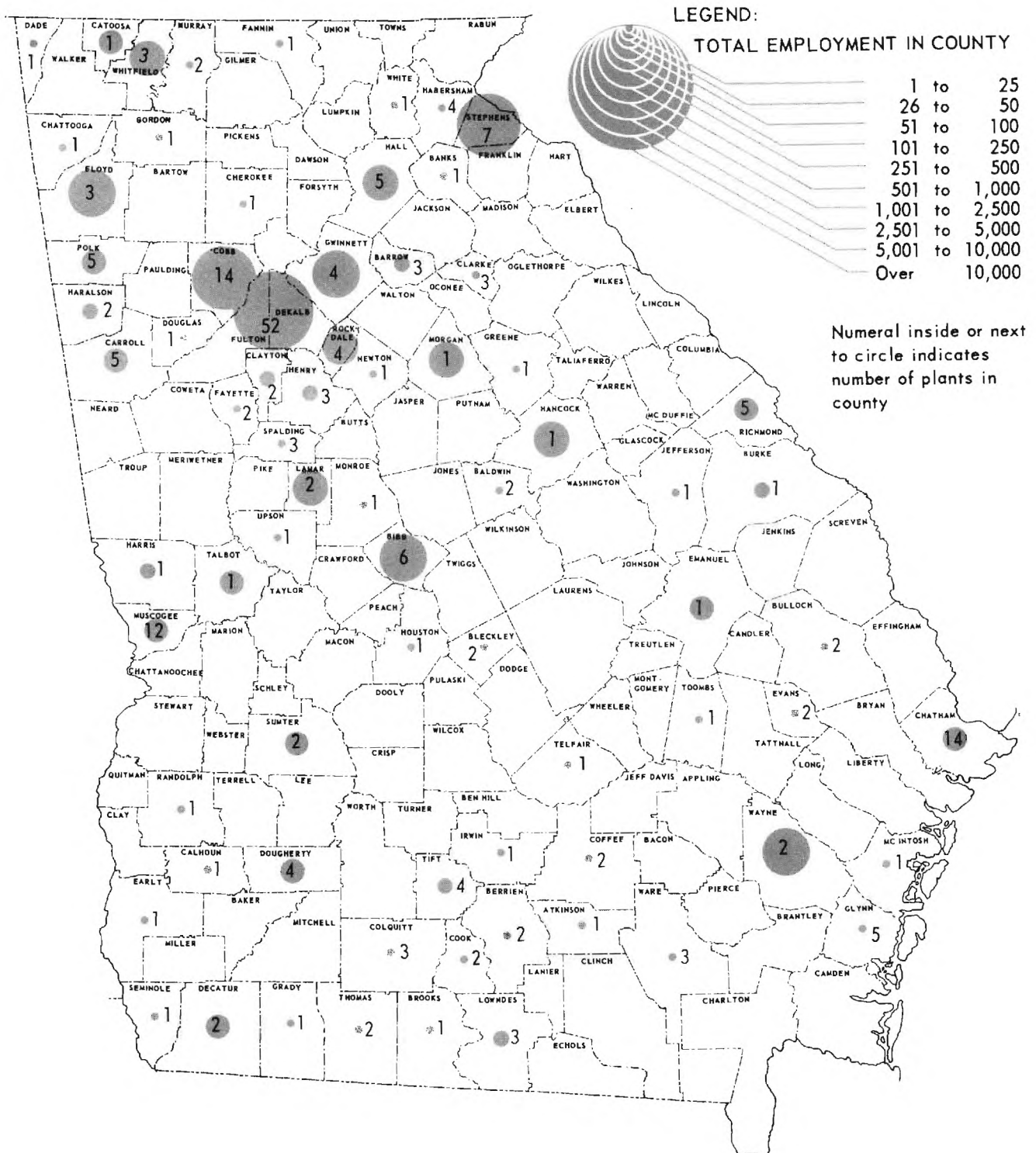
Nonhousehold furniture is made by 97 companies with a combined employment of 1,600 workers. Products include furniture for public buildings, offices, hotels, and restaurants; wood and metal partitions, shelving, and other fixtures; and venetian blinds and shades. There are 49 firms making wood and metal partitions and other fixtures, but over half these companies also have other product lines (including items classified under other industries, as well as other types of furniture). Makers of venetian blinds also tend to diversify -- of the 30 companies in this line 16 make other items. The same comment applies to the makers of furniture for public and commercial buildings, where 13 out of 21 companies make other items.

Although nonhousehold furniture is made in 29 counties, by far the greatest concentration is in the Fulton-DeKalb area, with 34 companies employing over 700 workers. Another 200 workers are employed by eight companies in the adjacent counties of Cobb and Clayton.

All these companies tend to be small, with some being just one-man operations. Larger firms include Abrams Fixture Corporation (Atlanta, Fulton County) -- wood and metal display and store fixtures; Blair Manufacturing Company (Marietta, Cobb County) -- office furniture, steel shelving; Jebco, Inc. (Warrenton, Warren County) -- metal office fixtures; Roswell Seating Company, Inc. (Roswell, Fulton County) -- wood church and school furniture; and J. P. Womack and Sons, Inc. (Atlanta, Fulton County) -- bank and store fixtures, architectural woodwork.

MAP 9-A

HOUSEHOLD FURNITURE



FURNITURE AND FIXTURES

Household Furniture

There are 241 household furniture plants in Georgia, employing between 7,800 and 7,900 workers. Products include all types of wood household furniture (upholstered and nonupholstered), metal household furniture, and mattresses and bedsprings.

Over 30% of the employment is in the Fulton-DeKalb area. Other important centers are in Stephens, Cobb, Bibb, Floyd, Gwinnett, and Wayne counties. Together these eight counties employ 70% of the workers.

Wood furniture (excluding upholstered) is made by 160 firms throughout the state. Many of these are small operations, with one or two people making cabinets. Eight companies employ over 100 workers. Two of these are in Stephens County, and the others are in Bibb, Cobb, Fulton, Hancock, Lamar, and Whitfield counties. Together these eight companies employ over 1,800 workers.

Upholstered furniture is made by 27 companies. Five of these employ over 100 workers -- in Floyd, Fulton, Habersham, Morgan, and Wayne counties -- with a combined total of over 1,200 workers.

There are only 10 metal household furniture makers in Georgia. Fulton, DeKalb, and Cobb counties each have one plant of over 100 workers. Combined employment for the three companies totals 1,300 workers, but since the largest of them manufactures a variety of other products, this figure cannot all be considered applicable to the making of metal furniture.

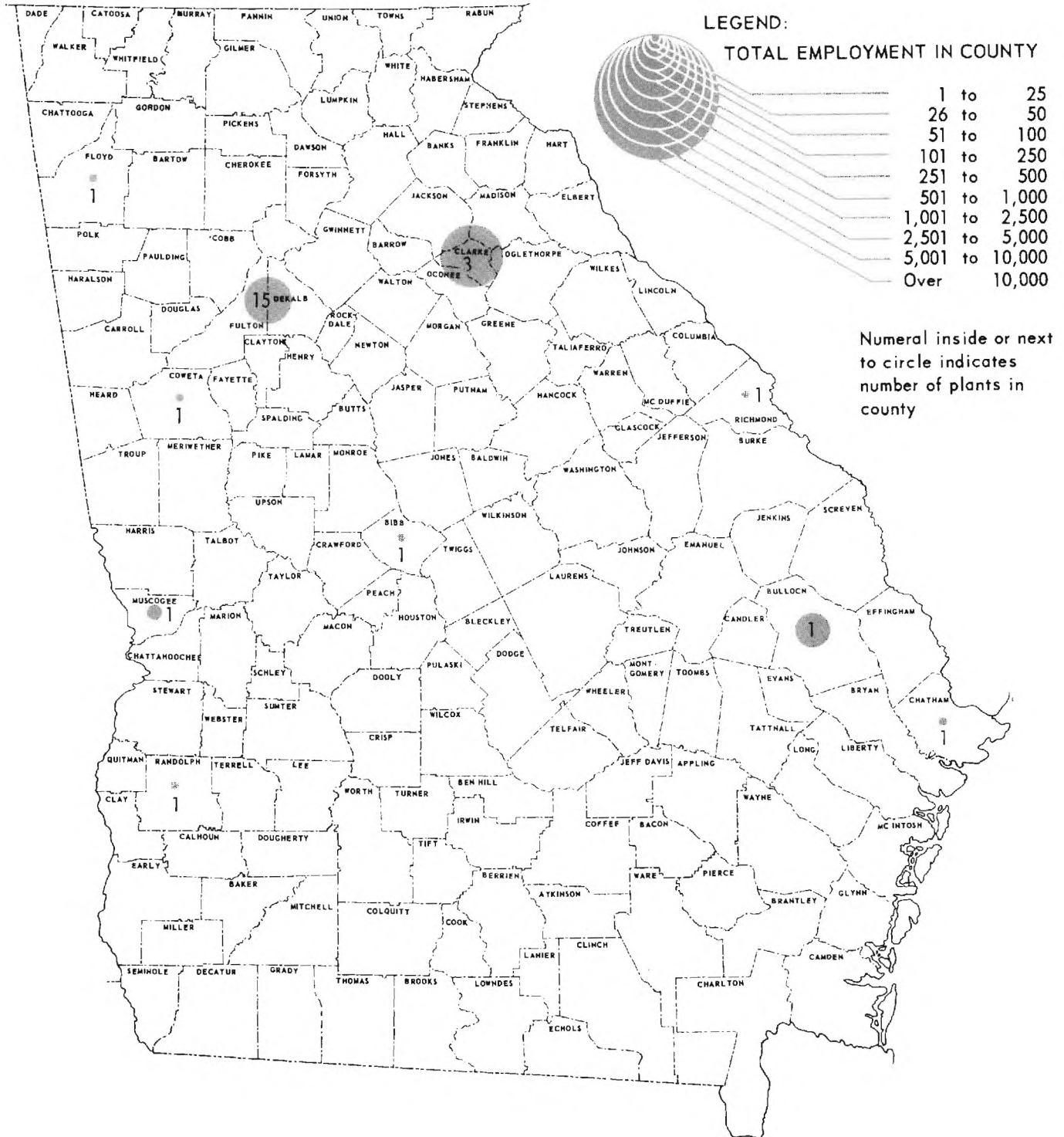
Mattresses and bedsprings are made by 53 companies, but here again, many of them make other items -- chiefly other types of furniture. The two largest household furniture manufacturers in the state include mattresses and box springs in their production lines: Simmons Company (Atlanta, Fulton County) -- mattresses, box springs, upholstered furniture; and Southern Spring Bed Company (Atlanta, Fulton County) -- institutional and domestic furniture and bedding, including metal and wood chairs, beds, bunk beds, mattresses and box springs, display racks, and batting for the automotive industry.

Other large companies include Toccoa Manufacturing Company (Toccoa, Stephens County) -- wooden household furniture; Production Engineering Company

(Austell, Cobb County) -- outdoor aluminum chairs; Fox Manufacturing Company (Rome, Floyd County) -- living room furniture; Waynline, Inc. (Jesup, Wayne County) -- upholstered living room furniture; Art Furniture Manufacturing Company (Macon, Bibb County) -- wooden occasional tables; Trogden Furniture Company (Toccoa, Stephens County) -- dining room and bedroom suites, chests; and Schnadig Corporation, International Furniture Division (Cornelia, Habersham County, and Madison, Morgan County) -- upholstered living room furniture. Combined employment of these nine companies in Georgia is nearly 4,000 workers.

MAP 10

INSTRUMENTS AND RELATED PRODUCTS



INSTRUMENTS AND RELATED PRODUCTS

The instruments and related products industry has the smallest number of employees of any of the major industry groups in Georgia. There are 26 plants in 11 counties with a combined employment of 1,400 workers. Nearly two thirds of these workers are in Clarke County. The Fulton-DeKalb area, with 15 plants, employs a further 19% of the total.

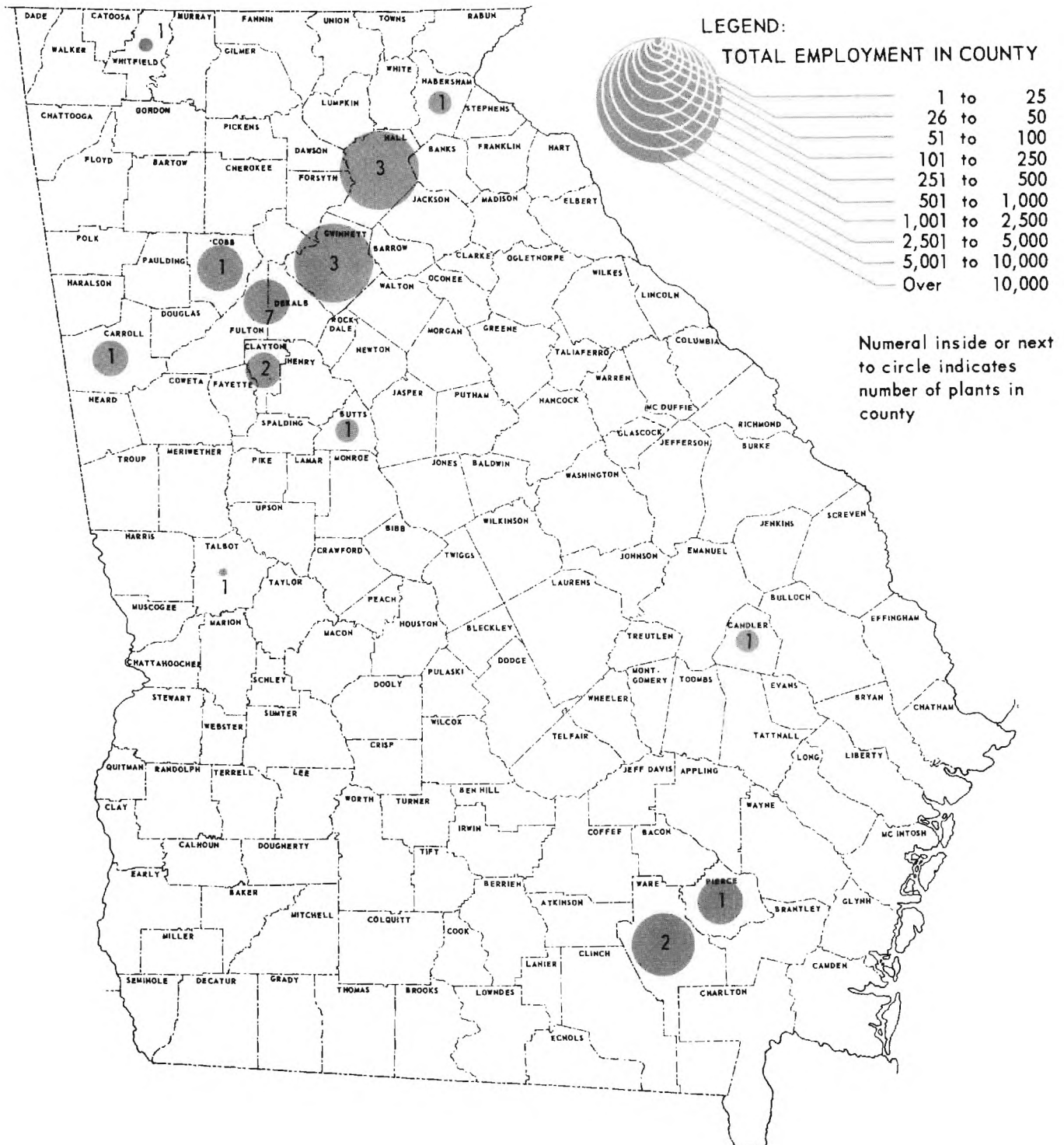
Production in Clarke County is concentrated on clocks, clock parts, and clockwork-operated devices. The Fulton-DeKalb area is more diversified, producing a variety of scientific, measuring, and controlling instruments; surgical equipment, apparatus, and appliances; and dental, ophthalmic, and photographic supplies and equipment.

In the rest of the state, measuring instruments are made in Bulloch County, optical lenses in Floyd and Richmond counties, hospital operating room equipment in Muscogee, surgical and orthopedic appliances in Chatham and Bibb counties, industrial prescription goggles in Coweta, and photographic equipment in Randolph County.

The largest instrument maker in the state is General Time Corporation (Athens, Clarke County), with two separate plants producing clocks, radio timers, and electric automobile clocks.

MAP 11

LEATHER AND LEATHER PRODUCTS



LEATHER AND LEATHER PRODUCTS

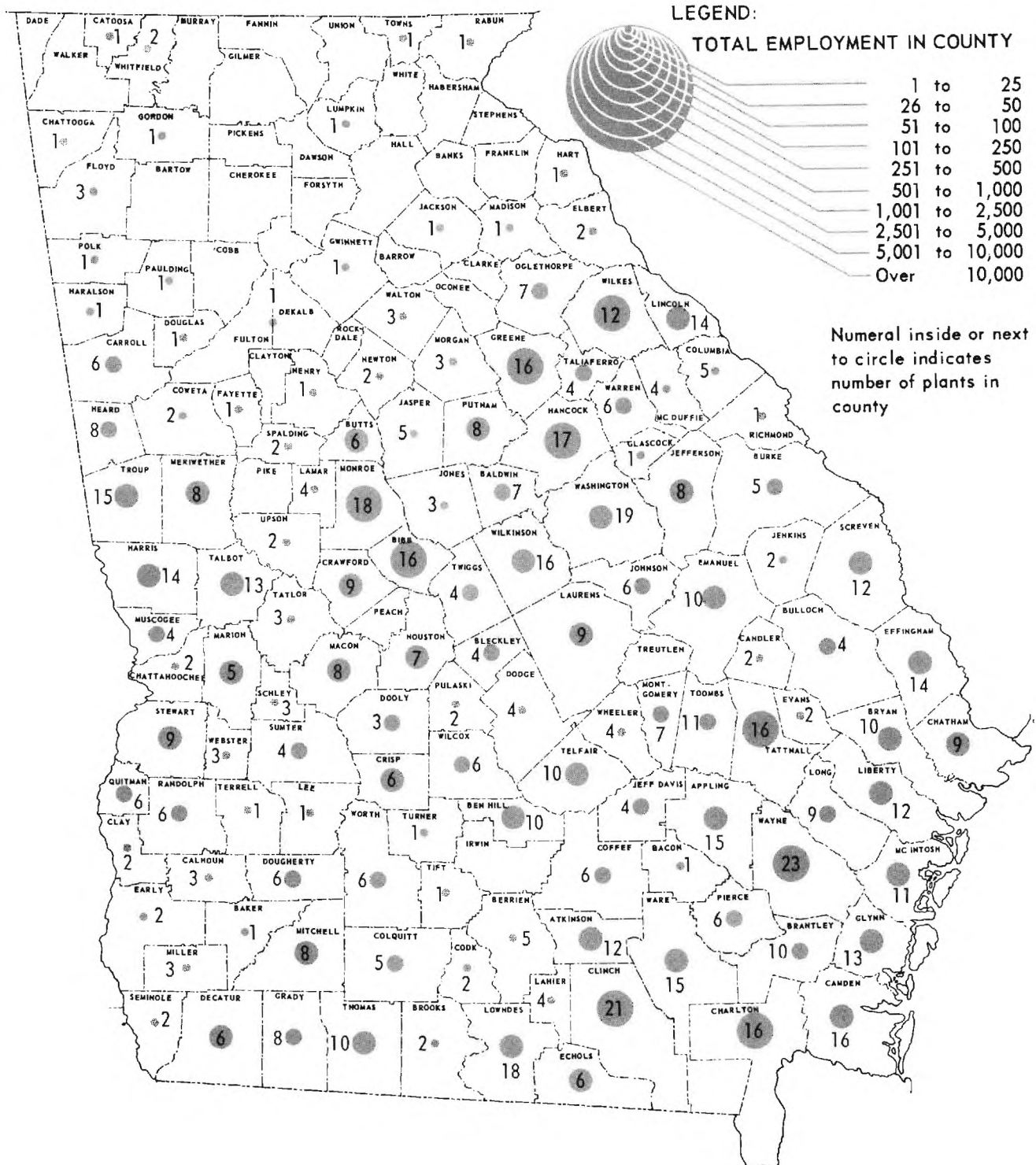
Georgia has 25 plants manufacturing leather and leather products, with total employment of over 5,000. Hall and Gwinnett counties, with three plants each, account for about 50% of all workers in this industry. The Fulton-DeKalb area has seven leather companies and a total of 400 to 500 workers. Nearby Cobb and Clayton counties together have three plants and over 500 employees. In the southeast corner of the state are three more companies in Ware and Pierce counties with a total of more than 1,000 workers.

Nearly 78% of all employees are engaged in the manufacture of shoes. Ware County has two shoe factories, and seven counties -- Candler, Carroll, Cobb, Fulton, Gwinnett, Hall, and Pierce -- have one each. Other leather products made in Georgia include luggage, handbags, industrial belting, and riding equipment. Only one company, in Gwinnett County, is engaged in tanning and finishing leather.

Major companies in the leather and leather products group include Georgia Shoe Manufacturing Company (Flowery Branch, Hall County); Genesco, Inc. (Lawrenceville, Gwinnett County; Atlanta, Fulton County; and Carrollton, Carroll County); Bona Allen, Inc. (Buford, Gwinnett County); Rubin Bros. Footwear, Inc. (Waycross, Ware County); McLaurin Corporation (Marietta, Cobb County); Spatola Footwear Division of Pierce Shoe Company (Waycross, Ware County); and Pierce Shoe Manufacturing Co. (Blackshear, Pierce County).

MAP 12-A

LOGGING OPERATIONS



LUMBER AND WOOD PRODUCTS

Data on lumber and wood manufacturing are difficult to obtain with any degree of completeness. Many of the logging and milling operations are mobile, and numbers of workers and locations can vary considerably throughout the year.

According to employment estimates made by the Georgia Department of Labor, the lumber and wood products industry ranks fifth among the major industry groups in the state, with well over 26,000 workers.

Analysis of the industry's operations by location has been made by using the unpublished data from which the Department of Labor estimates were derived. These data represent only those firms covered by the Georgia Employment Security Law, which generally includes only those firms with four or more employees. The individual county figures total over 25,600 workers -- a high percentage of the final estimate. It must be borne in mind, however, particularly in regard to the number of plants, that these data do exclude the many one-, two-, and three-man operations that are common in this industry.

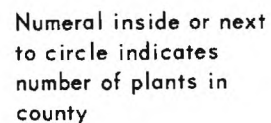
For purposes of presentation the industry has been divided into three parts, and separate maps are given for logging operations, sawmills and planing mills, and all other operations. The last classification includes millwork, veneer, plywood and prefabricated structural wood products, wooden containers, and miscellaneous wood products.

Logging Operations

The logging operations group includes logging camps and logging contractors primarily engaged in cutting timber and in producing rough, round, hewn, or riven primary forest or wood raw materials. In addition to the exclusion of the very small operations, logging work done in combination with mills or other converting establishments and not separately reported are classified with that establishment. Qualified by these limitations, the map shows the location of 833 logging operations employing more than 5,500 persons^{1/} in 131 counties.

^{1/} Employment Security Agency, Georgia Department of Labor, Second Quarter 1964 unpublished data. (Includes only those firms covered by the Georgia Employment Security Law, which generally includes only those firms with four or more employees.)

SAWMILLS AND PLANING MILLS



LUMBER AND WOOD PRODUCTS

Sawmills and Planing Mills

Sawmills and planing mills are located in 143 of Georgia's 159 counties. There are 642 mills employing nearly 11,700 workers.^{1/}

These operations include establishments engaged in sawing rough lumber and timber, manufacturing hardwood dimension stock and hardwood flooring, excelsior, wood shingles, and cooperage stock, and in sawing other special products.

The Fulton-DeKalb area leads in both employment and number of mills, with nearly 800 workers in 27 companies. Five other counties employ over 250 workers. In descending order of employment size, they are Habersham, Cook, Gilmer, Lowndes, and Greene, with a combined employment of 1,600 in 60 mills.

Most of the mills are small operations, though they tend to be somewhat larger than the logging camps. Among the largest of the companies are Del-Cook Lumber Company (Adel, Cook County) -- lumber, wood chips, sawdust; Peninsular Lumber Company (Claxton, Evans County) -- dressed lumber; The Langdale Company (Valdosta, Lowndes County) -- lumber, rosin, wood preserving; and Tolleson Lumber Company, Inc. (Perry, Houston County; Fitzgerald, Ben Hill County; Mystic, Irwin County) -- finished lumber, pine and hardwood, pressure-treated lumber.

^{1/} Employment Security Agency, Georgia Department of Labor, Second Quarter 1964 unpublished data. (Includes only those firms covered by the Georgia Employment Security Law, which generally includes only those firms with four or more employees.)

LUMBER AND WOOD PRODUCTS

Millwork, Plywood, and Other Associated Products

The remaining lumber and wood operations -- fabricators of millwork, plywood, and other associated products -- are located in 65 counties. Some 155 companies provide jobs for nearly 8,500 workers.^{1/}

The Fulton-DeKalb area again leads in total employment with nearly 1,200 workers in 22 plants. Chatham County is a very close second with over 1,100 workers in only half the number of plants. Bibb County ranks third with nearly 800 workers. Seven counties have over 250 employees each -- Clinch, Decatur, Laurens, Lowndes, McDuffie, Richmond, and Thomas -- with a combined employment of almost 2,200 workers.

Nearly half of the 8,500 workers in this group are engaged in manufacturing fabricated millwork, veneer, plywood, or prefabricated wooden buildings. There are 73 plants doing this type of work, located in 41 counties. Chatham County has the highest number of employees -- over 800 in six plants; the Fulton-DeKalb area is second with over 600 workers in its 10 plants.

Some 2,300 workers are engaged in the manufacture of wooden containers, including nailed boxes, wire-bound boxes and crates, veneer and plywood produce baskets, and wooden barrels. There are 30 of these operations, located in 25 counties. Bibb is the most important county from an employment point of view, with well over one quarter of the workers employed in its three plants.

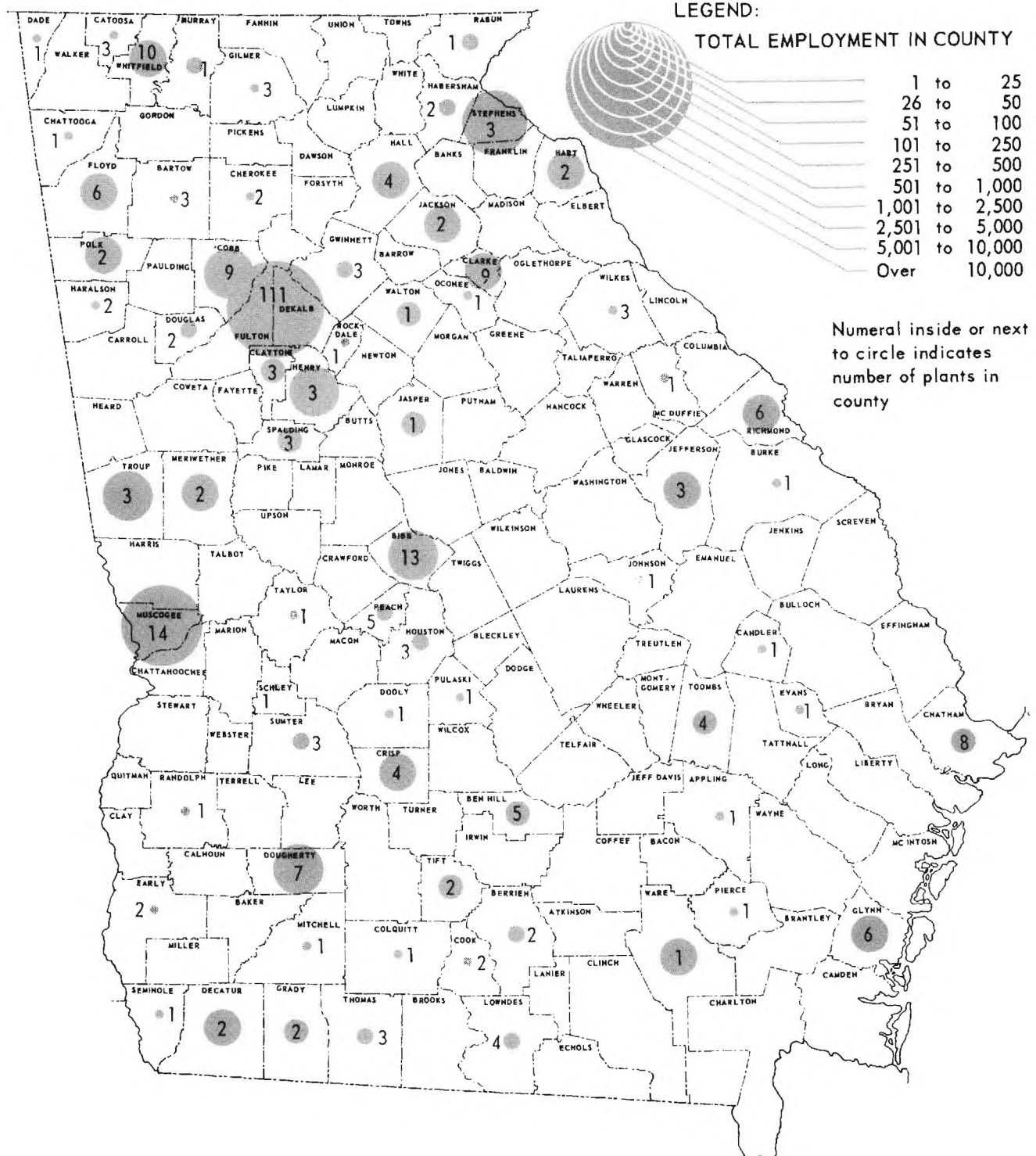
Wood preserving and the manufacture of miscellaneous wood products provide jobs for between 2,100 and 2,200 persons. There are 52 companies in this category, located in 31 counties. Over 500 workers are employed by the 11 plants in the Fulton-DeKalb area. Six other counties have over 100 employees each -- Bibb, Chatham, Clinch, Coweta, Lowndes, and Richmond -- with a combined total of over 900 workers in 15 plants.

^{1/} Employment Security Agency, Georgia Department of Labor, Second Quarter 1964 unpublished data. (Includes only those firms covered by the Georgia Employment Security Law, which generally includes only those firms with four or more employees.)

Some of the larger companies producing millwork, plywood, and other associated products also manufacture other lumber and wood items. Any such diversification of products is indicated in the following list of major firms in this group: Georgia Pacific Corporation (Savannah, Chatham County; Mountain City, Rabun County) -- hardwood, plywood, prefinished wall paneling; Randall Brothers, Inc. (Atlanta, Fulton County) -- special millwork, lumber; Southern Crate and Veneer Company (Macon, Bibb County) -- wire-bound crates and boxes; Georgia Crate and Basket Company (Thomasville, Thomas County) -- wire-bound boxes; Elberta Crate and Box Company (Bainbridge, Decatur County) -- wire-bound boxes, paper-overlaid veneer; Talley Veneer and Crate Company, Inc. (Adel, Cook County) -- wire-bound boxes; Williams Brothers Lumber Company (Atlanta, Fulton County) -- millwork and lumber products, building materials; Bradley Plywood Corporation (Savannah, Chatham County) -- plywood, flush doors, hardwood; Pierpont Manufacturing Company (Savannah, Chatham County) -- wire-bound wooden boxes, crates; Georgia Plywood Corporation (Dublin, Laurens County) -- plywood and doors; and Farris Plywood Company (Cuthbert, Randolph County) -- plywood and veneer.

MAP 13

MACHINERY, EXCEPT ELECTRICAL



MACHINERY, EXCEPT ELECTRICAL

The 319 companies in the machinery (except electrical) industry group employ 11,200 workers in 70 counties. Production varies from machine work done by one man in his own shop to the manufacturing of textile machinery and heavy earth-moving equipment. In addition to Map 13 on the facing page, which gives the picture of the total industry, three further maps are presented showing the locations of plants manufacturing farm machinery, plants manufacturing textile machinery, and machine shops.

The Fulton-DeKalb area is the major center of production, with 111 plants employing one third of all workers in this industry and covering a broad range of products. Atlanta is the only place in Georgia where certain items in this category are manufactured. The state's three elevator companies are all in the Fulton-DeKalb area, as are the nine firms making printing machinery and equipment. Industrial patterns, mechanical power transmission equipment, time recorders, and industrial vacuum cleaners all are manufactured only in Atlanta. Eight out of 10 plants (95% of employees) making refrigeration machinery are also in this two-county area.

Muscogee County ranks second to the Fulton-DeKalb area, with 14 plants and nearly 1,300 employees. Six of these plants are machine shops, but they are all comparatively small operations with a combined employment of about 100 workers. Except for one company making centrifugal sand and gravel pumps, all the other firms manufacture either textile or farm machinery (or both) and account for nearly 90% of the local employment in this industry group.

The next county in employment size is Stephens, with only three plants. Two small companies employ 6% of the workers; the other 94% are employed by one company engaged in the production of earth-moving construction machinery and trucks.

Farm machinery, textile machinery, and machine shops (for which separate maps are given) account for well over half of the plants and nearly 50% of the employment in this industry group. The other companies which round out the total picture given on Map 13 cover many different types of machinery and equipment.

Seven companies manufacture construction and mining machinery, with a combined employment of between 700 and 800 workers. The earth-moving machinery company in Stephens County has already been mentioned. Logging equipment is produced in Glynn and Taylor counties, and various types of mining machinery are made in Bartow, Floyd, Polk, and Richmond counties.

The three Atlanta elevator companies have a combined employment of slightly under 200 workers. Five of the eight manufacturers of conveyors and conveying equipment are also in Atlanta. The other three are in Bibb, Chatham, and Hall counties. Industrial trucks, tractors, and trailers are made by nine plants in Fulton (3), Bibb (2), Cobb, Floyd, Hart, and Richmond counties with combined employment estimated at 500 to 600 workers.

Six companies, located in Bibb, Catoosa, Cobb, Crisp, Fulton, and Rockdale counties, make metal-cutting and metal-forming machine tools, with a total of approximately 450 employees.

The Fulton-DeKalb area is again the main center for the production of special dies and tools, jigs, fixtures, machine tool accessories, and metal-working machinery. Out of 31 companies employing roughly 500 persons, 16 of the plants and over 50% of the employees are in the two-county Atlanta area. Bibb, Clayton, and Cobb counties have two each of the remaining 15 plants, and Catoosa, Chatham, Cherokee, Dade, Floyd, Glynn, Gwinnett, Meriwether, Richmond, and Schley have one each.

There are 17 plants engaged in manufacturing machinery for use in preparing and packaging food and beverage products. Seven of these, and the majority of the employment, are in the Fulton-DeKalb area. Clarke County has four plants, Hall County has three, and Decatur, Meriwether, and Seminole have one each.

As mentioned earlier, all the printing trades machinery and equipment companies are in the Atlanta area. These nine plants have a combined employment of somewhat over 100 workers. Woodworking machinery is made by nine companies -- two each in Fulton, Jefferson, and Toombs counties and the other three in Glynn, Rockdale, and Wilkes counties. Four small operations make machinery for the paper industry -- one in Chatham County, one in Clayton County, and two in the Fulton-DeKalb area.

A variety of other special industry machinery is also made -- cotton ginning machines, automatic nailing machines, tire-recapping equipment, tobacco cookers, and automatic materials-handling machinery, to mention just a few. Eight companies making a miscellaneous assortment of special machines are located in the Fulton-DeKalb area. Bibb and Gwinnett counties have two companies each, and five others are in Clarke, Cook, Lowndes, Polk, and Richmond counties.

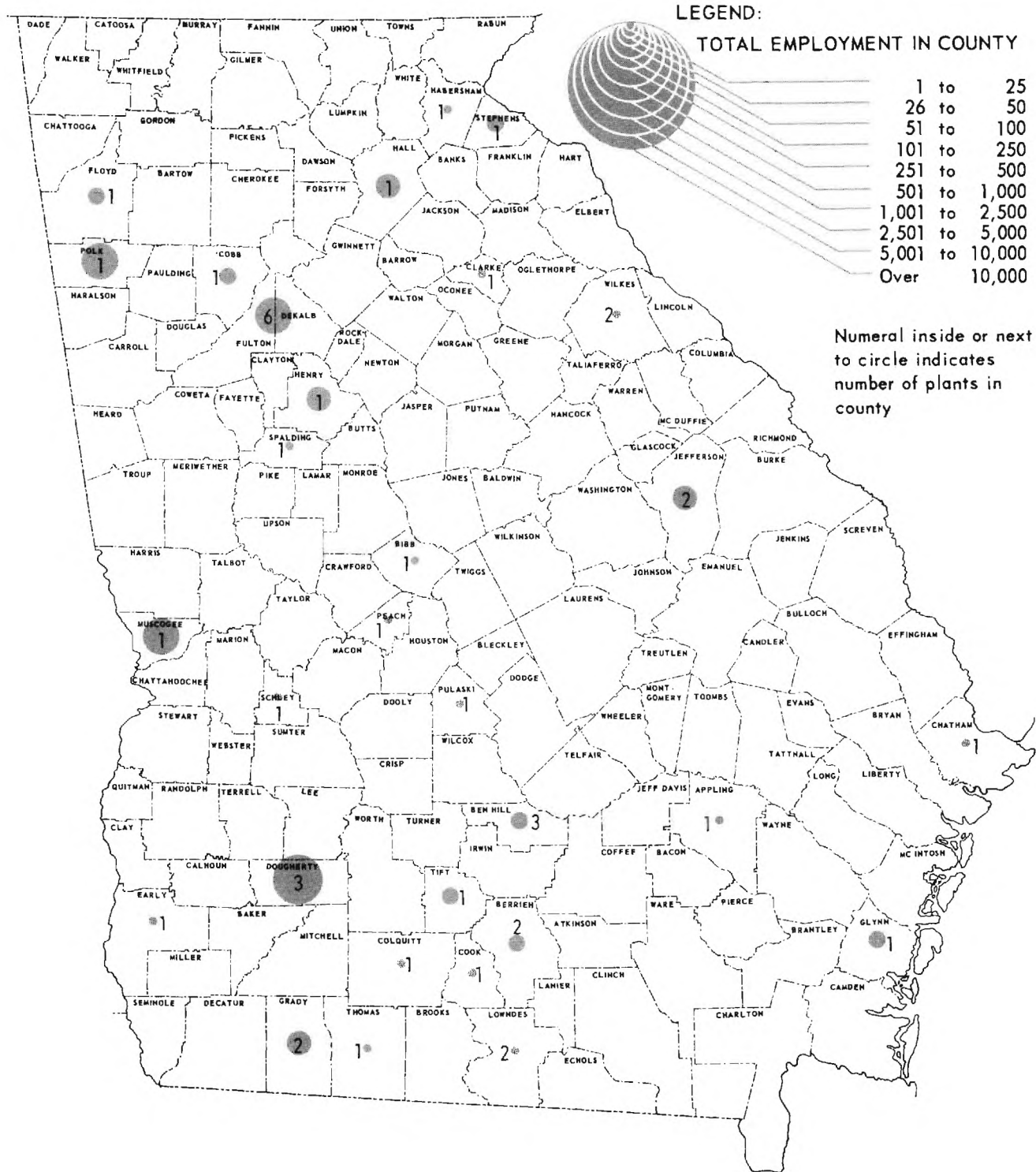
In addition to the special industry machinery, 25 companies make general industrial machinery and equipment, such as pumps, blowers and exhaust fans, industrial patterns, and miscellaneous components for industrial use. Many of these plants also manufacture other items, but employment in the making of general industrial machinery is estimated at over 700 workers -- over half in the Fulton-DeKalb area, where 16 of the 25 plants are located. The other nine companies are in Chatham, Dooly, Henry, Jackson, Muscogee, Peach, Richmond, Toombs, and Walton counties.

Only two companies manufacture office machines. Both are in the Atlanta area, one making job and payroll time recorders and one producing dictating machine accessories.

Ten companies make various types of refrigeration machinery and equipment, most in conjunction with other operations. Eight of the 10 are in the Fulton-DeKalb area, and the other two are in Clarke and Crisp counties. Other service industry machines, such as automatic merchandising machines, industrial vacuum cleaners, various commercial kitchen machines, and other miscellaneous nonelectrical parts, are manufactured throughout the state -- again usually in conjunction with other operations.

Among the larger companies manufacturing products not discussed on separate maps are LeTourneau-Westinghouse Company (Toccoa, Stephens County) -- earth-moving construction machinery and trucks; Warren Company, Inc. (Atlanta, Fulton County) -- commercial refrigeration; The Tumpane Company, Inc. (Marietta, Cobb County) -- machine tools; and Roper Hydraulics, Inc. (Commerce, Jackson County) -- rotary pumps, machine parts. The Lummus Cotton Gin Company (Columbus, Muscogee County), maker of cotton ginning machinery, also manufactures textile machinery, and an estimated number of employees are accordingly allocated to the appropriate map.

MAP 13-A
FARM MACHINERY



MACHINERY, EXCEPT ELECTRICAL

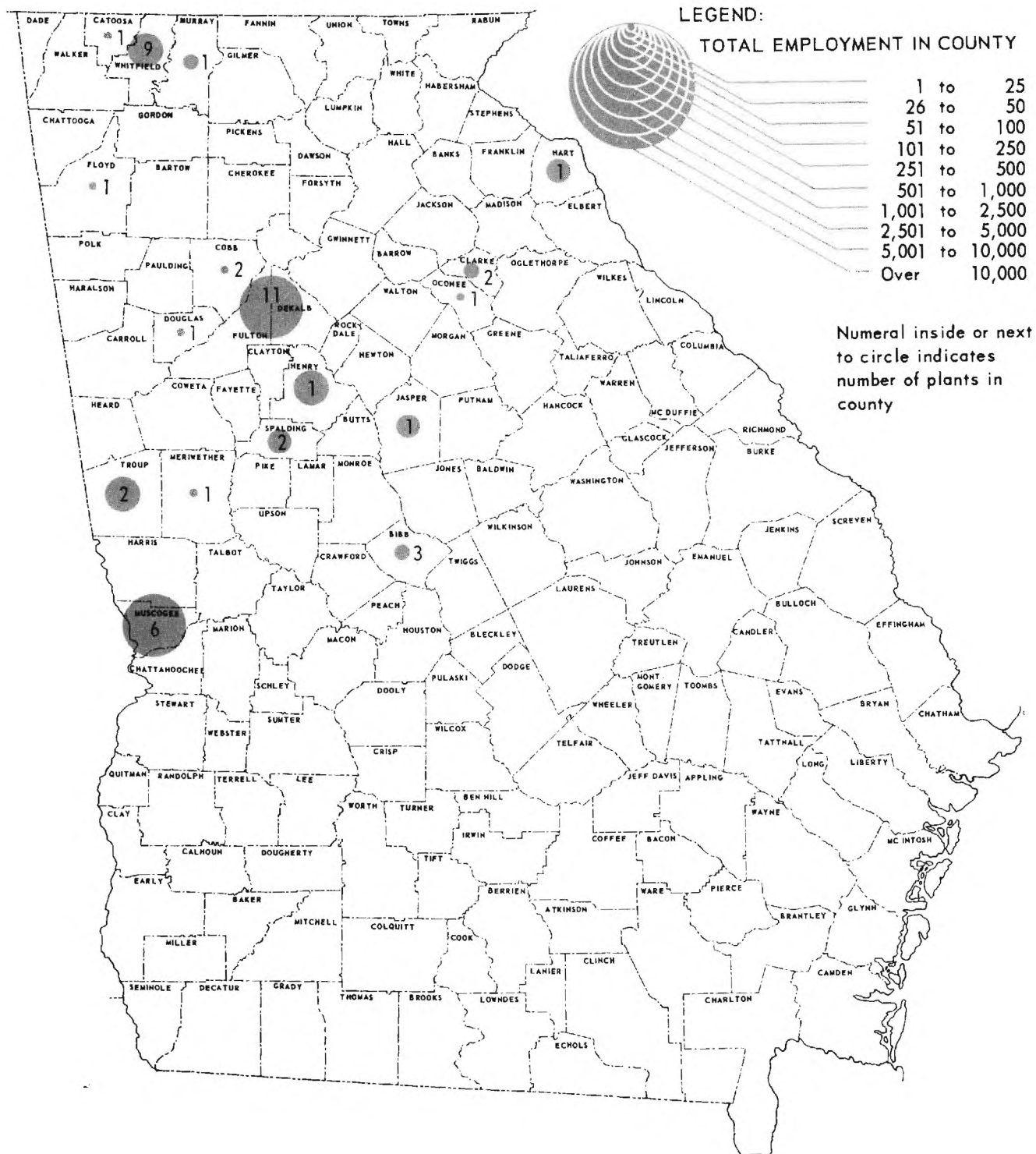
Farm Machinery

Nearly 1,700 persons are employed by 44 manufacturers of farm machinery throughout the state. There are 31 counties with at least one company in this category, but the main concentrations of employment are in Dougherty, Polk, and Muscogee counties and the Fulton-DeKalb area. Eleven plants in these five counties employ a total of nearly 1,000 workers.

A wide variety of agricultural implements and machinery is made, such as tractors, wagons, harvesters, peanut shellers, disc harrows, mowers, land clearing equipment, sprayers and dusters, tree planters, fertilizer applicators, poultry equipment, fogging machines, and logging and pulpwood-handling equipment.

Most of the plants are small -- 75% of them employ under 50 workers -- and many of these are three- to four-man operations. Roughly half of the plants also manufacture items other than farm machinery, and as explained on page 19, the number of employees allocated to the different types of production has been estimated. Among the larger companies manufacturing farm machinery are Columbus Iron Works Company, Southern Plow Company Division (Columbus, Muscogee County) -- farm implements, stoves and ranges, outdoor cooking equipment, steel forgings, iron castings; Lilliston Implement Company (Albany, Dougherty County) -- farm implements; and Rome Plow Company (Cedartown, Polk County) -- farm implements and land clearing equipment.

MAP 13-B TEXTILE MACHINERY



MACHINERY, EXCEPT ELECTRICAL

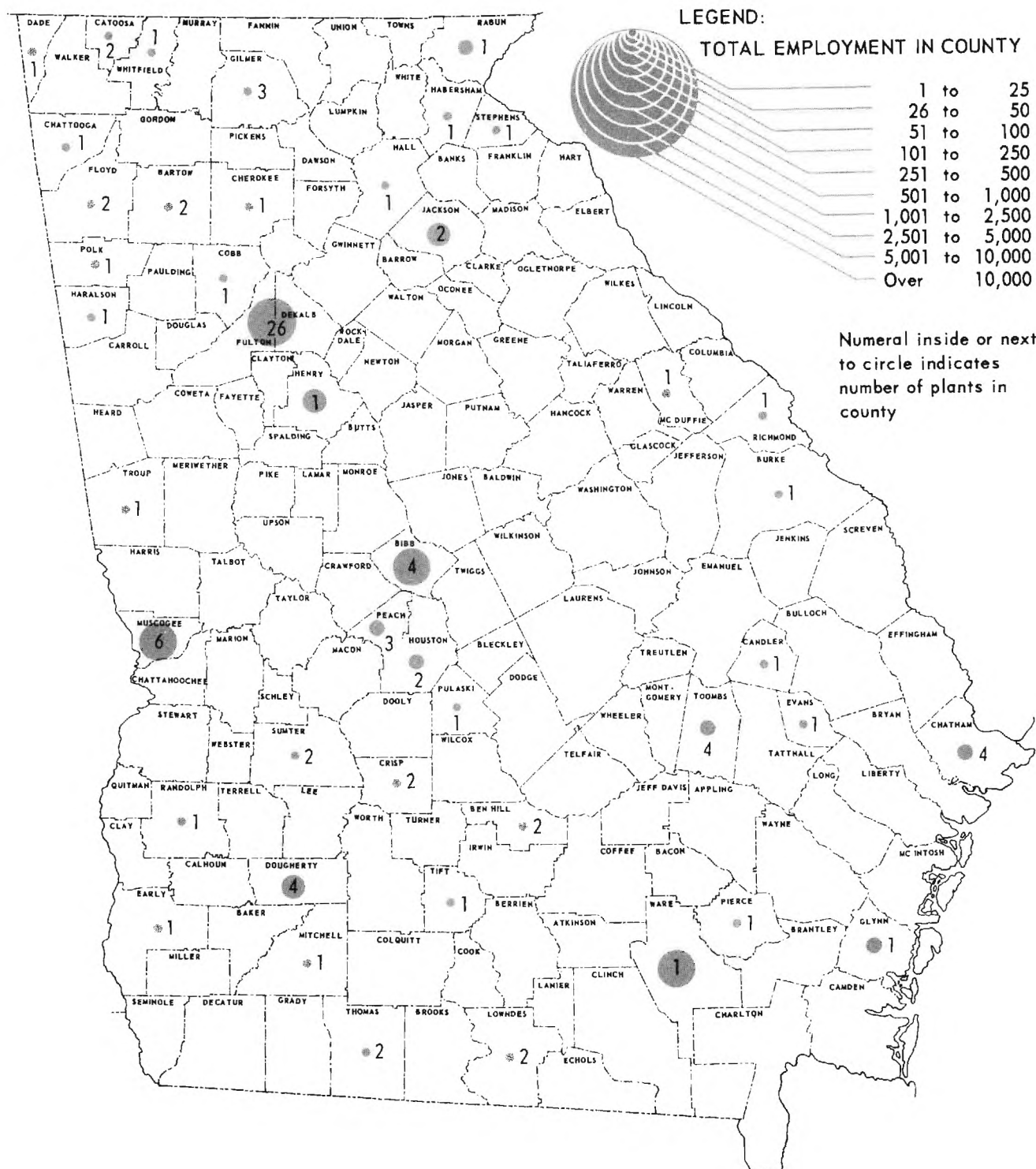
Textile Machinery

Forty-six companies in Georgia manufacture textile machinery or parts, attachments, and accessories for the textile industry. The map shows clearly that the major concentrations of employment are in the Fulton-DeKalb area and Muscogee County. The 17 companies in these three counties employ nearly 1,100 workers -- over 51% of the total number employed in this industry.

While some companies make or rebuild basic textile machines (including those for the tufted textile industry which has had such remarkable growth in Georgia), others concentrate on specialized parts and accessories, such as frames, reeds and heddles, cutting equipment, steel rollers, wooden rollers, knitting machine parts, textile rings, bobbins, and quills. Several of the companies also manufacture other nontextile items in their plants.

Most of the operations are small, with 60% of the plants employing fewer than 25 workers. The larger plants include Lummus Cotton Gin Company (Columbus, Muscogee County) -- textile machinery and cotton ginning machinery; Meadows Manufacturing Company (Atlanta, Fulton County) -- textile machinery and parts, plastic compression, ejection molding; Pioneer Heddle and Reed Company, Inc. (Atlanta, Fulton County) -- frames, reeds, and heddles; and West Point Foundry and Machine Company, Division of Batson-Cook Company (West Point, Troup County) -- textile machines.

MAP 13-C MACHINE SHOPS



MACHINERY, EXCEPT ELECTRICAL

Machine Shops

Machine shops are defined as "establishments primarily engaged in producing or repairing machine and equipment parts not elsewhere classified, on a job or order basis for others. These shops may use their own materials or may perform machinery operations on material owned by others, and are equipped with machine tools and other power-driven metalworking machinery capable of manufacturing a wide range of machine and equipment parts."^{1/}

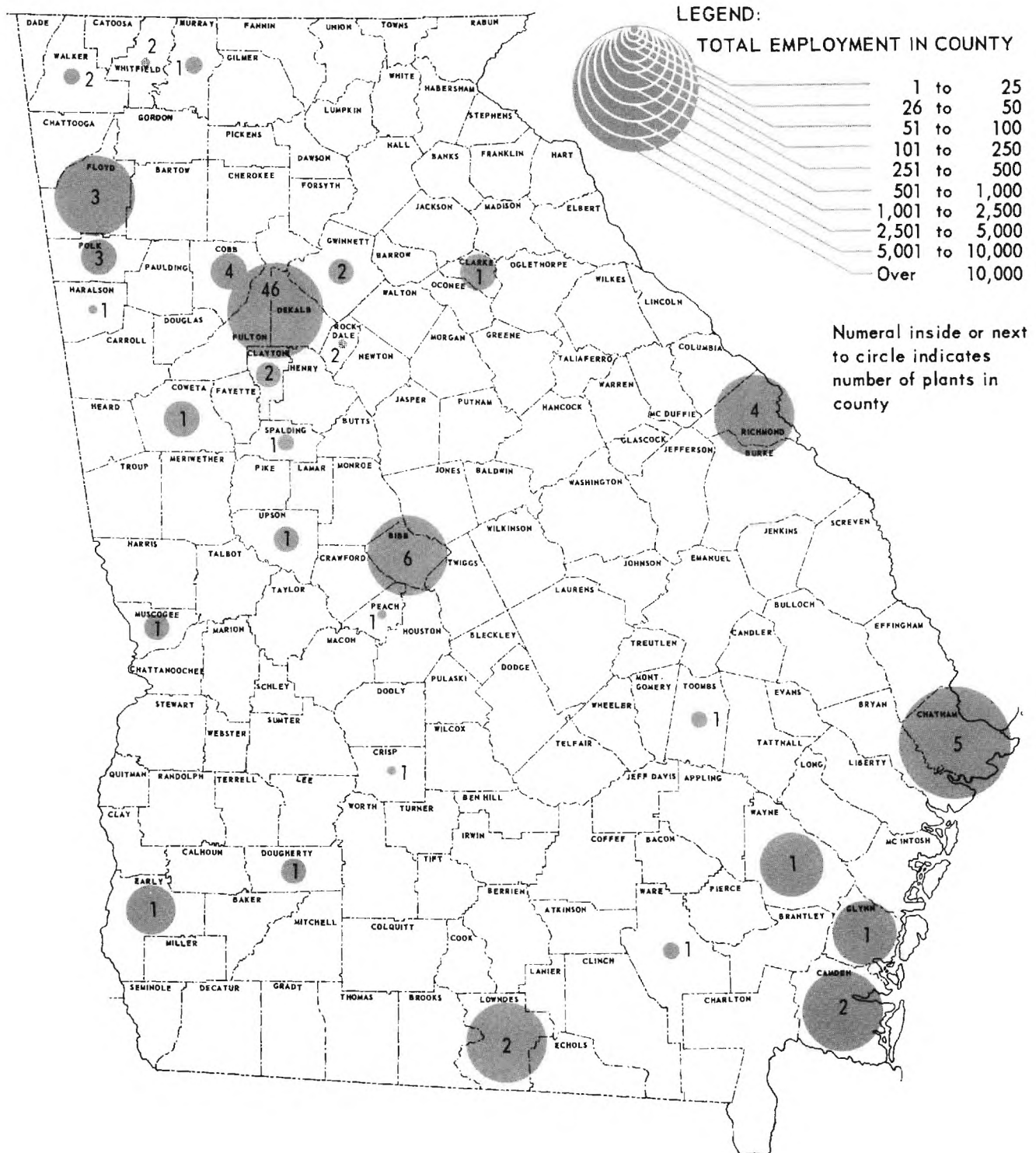
There are 100 such machine shops in Georgia, employing over 1,300 workers. They are located in 45 counties, with a concentration of over one fourth of the plants and 22% of the workers in the Fulton-DeKalb area.

As these figures indicate, the average machine shop is a small operation. Over one third of the shops also do other work, such as the manufacturing of small machines and tools and fabricated metal products. Four companies have over 100 employees, but since these four all do other manufacturing work, only part of their employment has been allocated to the machine shop category.

^{1/} Standard Industrial Classification Manual, Bureau of the Budget, Washington, D. C., 1957.

MAP 14

PAPER AND ALLIED PRODUCTS



PAPER AND ALLIED PRODUCTS

Paper and allied products ranks sixth in employment among the major manufacturing groupings in Georgia, with 20,800 workers in 100 plants throughout the state.

Although companies are found in 30 counties, the major center of the industry is in Chatham County, with over 28% of the state's employment. The Fulton-DeKalb area is second with over 23%. Next in employment size, as can be seen from Map 14, are Bibb, Camden, Floyd, Lowndes, and Richmond counties, which account for nearly 33%. If Glynn and Wayne counties are added, the group of 10 counties employs 92% of the workers in this industry.

Although the Fulton-DeKalb area ranks high in total employment in this industry, the type of manufacturing done is very different from that of Chatham County. In the Fulton-DeKalb area 46 plants produce a wide variety of converted paper, paperboard containers and boxes, and other paperboard products, whereas paperboard mills account for almost all of the Chatham County employment.

Although there are only 11 pulp, paper, and paperboard mills in Georgia, they represent nearly 59% of the total employment of the industry. In view of their importance, a separate map (Map 14-A) gives their location. (Map 14 includes all paper and allied products, from the manufacture of pulp to the final converted products.)

Fifty-two companies throughout the state manufacture various types of paperboard containers and boxes. Folding and set-up paperboard boxes are made by 21 firms with a combined employment of 2,300 workers. Fourteen of these companies, accounting for 85% of the employment, are located in the Atlanta Metropolitan Area (Clayton, Cobb, DeKalb, Fulton, and Gwinnett counties). The remaining seven companies are located in Bibb, Floyd, Muscogee, Richmond, Toombs, Upson, and Ware counties.

Corrugated and solid fiber boxes are made by 16 companies (one also makes folding boxes) with a combined employment of nearly 1,900 workers. Seven of the companies and over 40% of the workers are in the Fulton-DeKalb area. Bibb County comes next with three companies and approximately 700 employees. Floyd,

Dougherty, Murray, Rockdale, Gwinnett, and Chatham counties (in descending order of employment size) have one company each.

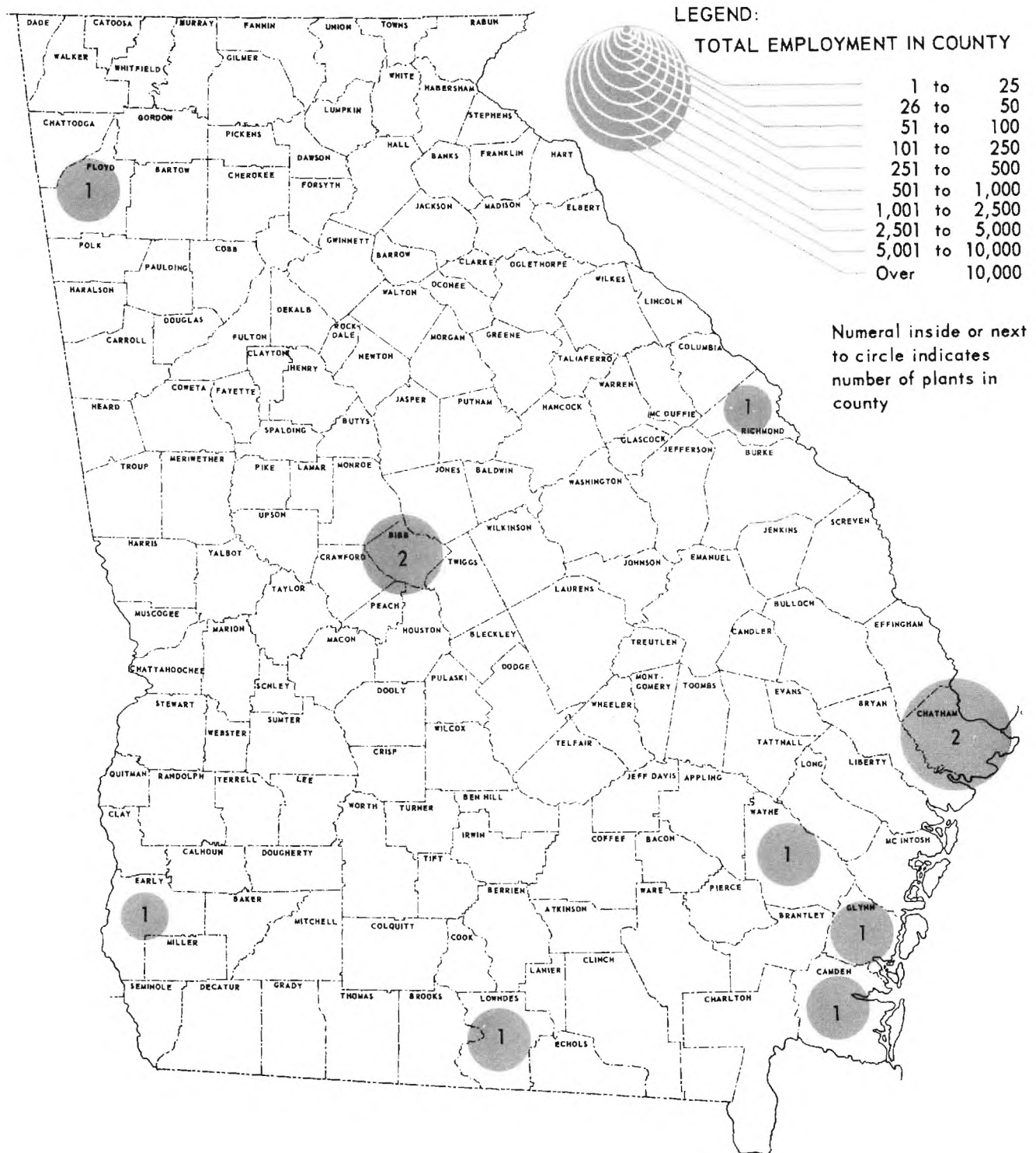
Other types of paperboard containers include sanitary food containers (such as milk cartons, soda straws, and paper plates) and fiber cans, tubes, and drums. Seventeen companies make these products (one also makes folding boxes and four others produce other converted paper products). Nine of the companies are in the Fulton-DeKalb area, but they represent only about 30% of the employment. Richmond County has the largest plant in this category. Other firms are located in Clarke, Cobb, Coweta, Polk, Walker (2), and Whitfield counties.

Other converted paper and paperboard products include envelopes, bags, paper coating and glazing, die-cut paper and paperboard, and other miscellaneous products. Paper coating and glazing is done by four companies in DeKalb, Coweta, Richmond, and Chatham counties (in descending order of employment size) with a combined total of 800 workers. Envelopes are made by six companies, all in the Fulton-DeKalb area, with total employment of about 400 workers. Fifteen firms make bags (except textile bags). This number includes a department of unknown size in the biggest paperboard mill in the state. Combined employment for the other 14 bag-making firms is over 1,000 workers, with the three largest plants being in Camden, Fulton, and Lowndes counties. Nearly all the remaining producers of miscellaneous paper products are in the Atlanta area. Six small companies, making such items as shirt boards, basket liners, and laundry paper shells, are outside Atlanta in Crisp, Haralson, Peach, Polk (2), and Spalding counties. Such items as school supplies, stationery, tags, and labels are produced in the Atlanta area by large and small companies -- usually in conjunction with other paper products.

Among the larger companies in Georgia's paper industry, excluding the pulp, paper, and paperboard mills, are Mead Packaging and Mead Containers, Divisions of The Mead Corporation (Atlanta, Fulton County) -- consumer packaging, packaging machinery and systems, corrugated containers, cartons, and folding boxes; Inland Container Corporation (Macon, Bibb County, and Coosa, Floyd County) -- corrugated containers; Lily Tulip Cup Corporation (Augusta, Richmond County) -- paper cups and containers; Montag, Inc. (Atlanta, Fulton County) -- stationery and school supplies; and Union Bag-Camp Paper Corporation, Folding

Carton and Label Division (Stone Mountain, DeKalb County) -- labels, paper converting, and folding boxes.

MAP 14-A PULP, PAPER, AND PAPERBOARD MILLS



PAPER AND ALLIED PRODUCTS

Pulp, Paper, and Paperboard Mills

The 11 mills depicted on Map 14-A account for nearly 59% of Georgia's employment in the paper and allied products industry. The leading mill is Union Bag-Camp Paper Corporation, established in Chatham County (as Union Bag and Paper Company) in 1936, which produces kraft paperboard, bags, and containers.

There are seven other paperboard mills, one paper mill, one pulp mill, and one mill making building paper and board. Combined employment of the 11 mills is over 12,100 workers.

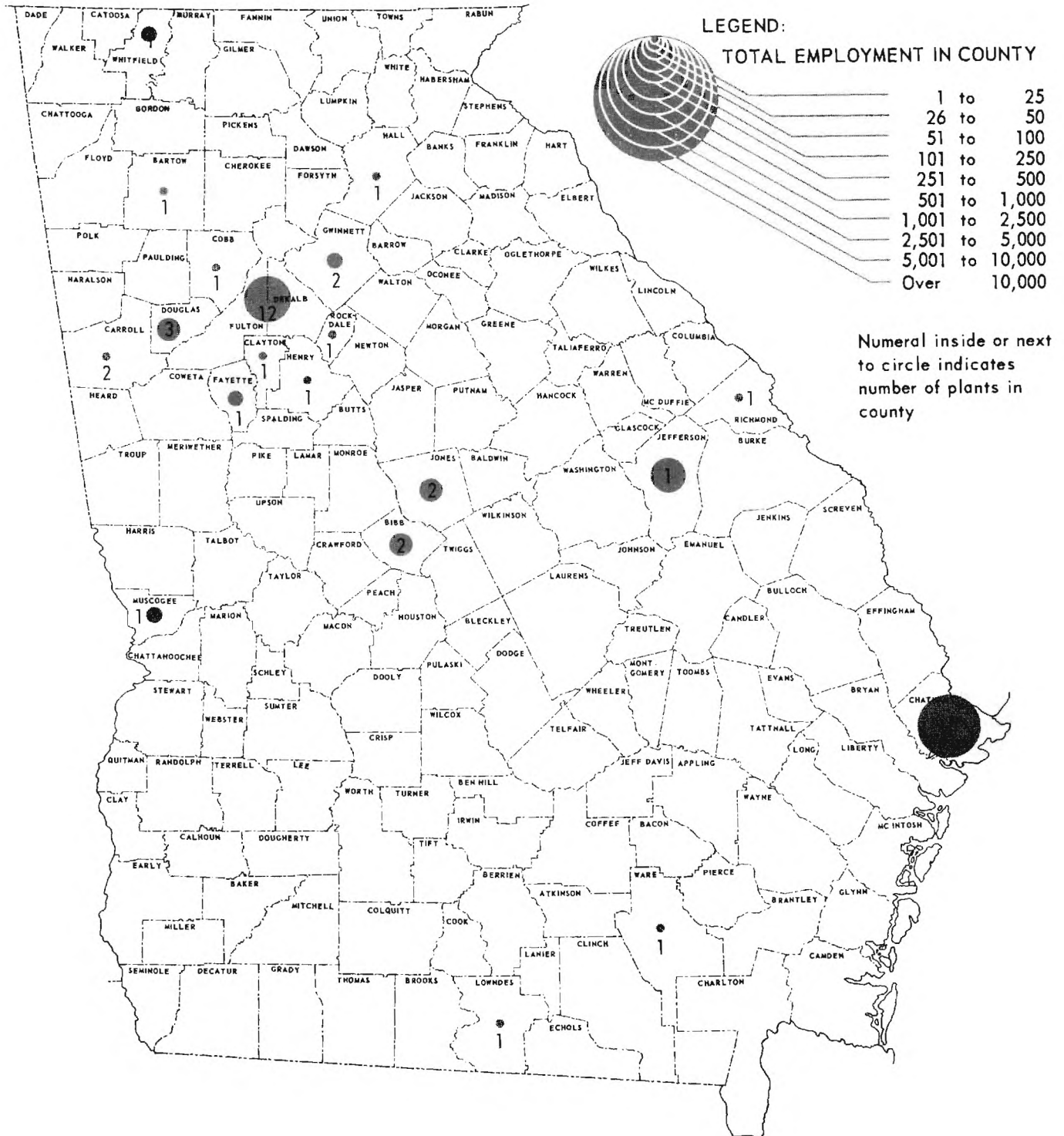
The eight paperboard mills have a total employment of over 9,800 workers and are located as follows:

- Brunswick Pulp and Paper Company (Brunswick, Glynn County) -- bleached sulphate pulp and container board
- Continental Can Company, Inc. (Augusta, Richmond County) -- bleached paperboard
- Continental Can Company, Inc. (Port Wentworth, Chatham County) -- kraft liner board
- Georgia Kraft Company, Macon Division (Macon, Bibb County) -- container board
- Georgia Kraft Company, Rome Division (Coosa, Floyd County) -- container board
- Great Southern Land and Paper Company (Cedar Springs, Early County) -- kraft liner board
- Owens-Illinois Forest Products Division Mills (Valdosta, Lowndes County) -- liner board
- Union Bag-Camp Paper Corporation (Savannah, Chatham County) -- kraft paperboard, bags, containers

The pulp mill is Rayonier, Inc. (Jesup, Wayne County) -- chemical cellulose, paper pulp, turpentine, tall oil. The paper mill is St. Marys Kraft Corporation, (St. Marys, Camden County) a subsidiary of Gilman Paper Company, and the building paper mill is Armstrong Cork Company (Macon, Bibb County) -- insulation boards, acoustical tile.

MAP 15

PETROLEUM PRODUCTS



PETROLEUM PRODUCTS

Petroleum products are manufactured in 21 counties in Georgia. The 46 plants in this industry employ a total of between 1,500 and 1,600 workers.

Chatham County has the highest employment, with over 600 workers in 10 plants. The Fulton-DeKalb area has 12 plants, with over 300 workers.

Over 50% of the industry's employees are engaged in making paving mixtures. Six of the 28 companies are in the Fulton-DeKalb area, five are in Chatham County, Douglas and Jones counties have two each, and the remaining 13 are in Bartow, Bibb, Carroll, Clayton, Fayette, Gwinnett, Hall, Henry, Jefferson, Lowndes, Muscogee, Ware, and Whitfield counties.

Nine companies make roofing felts and coatings (including one company also producing paving mixtures). Four of these companies are in Chatham County, two in Fulton, and one each in Douglas, Gwinnett, and Rockdale counties.

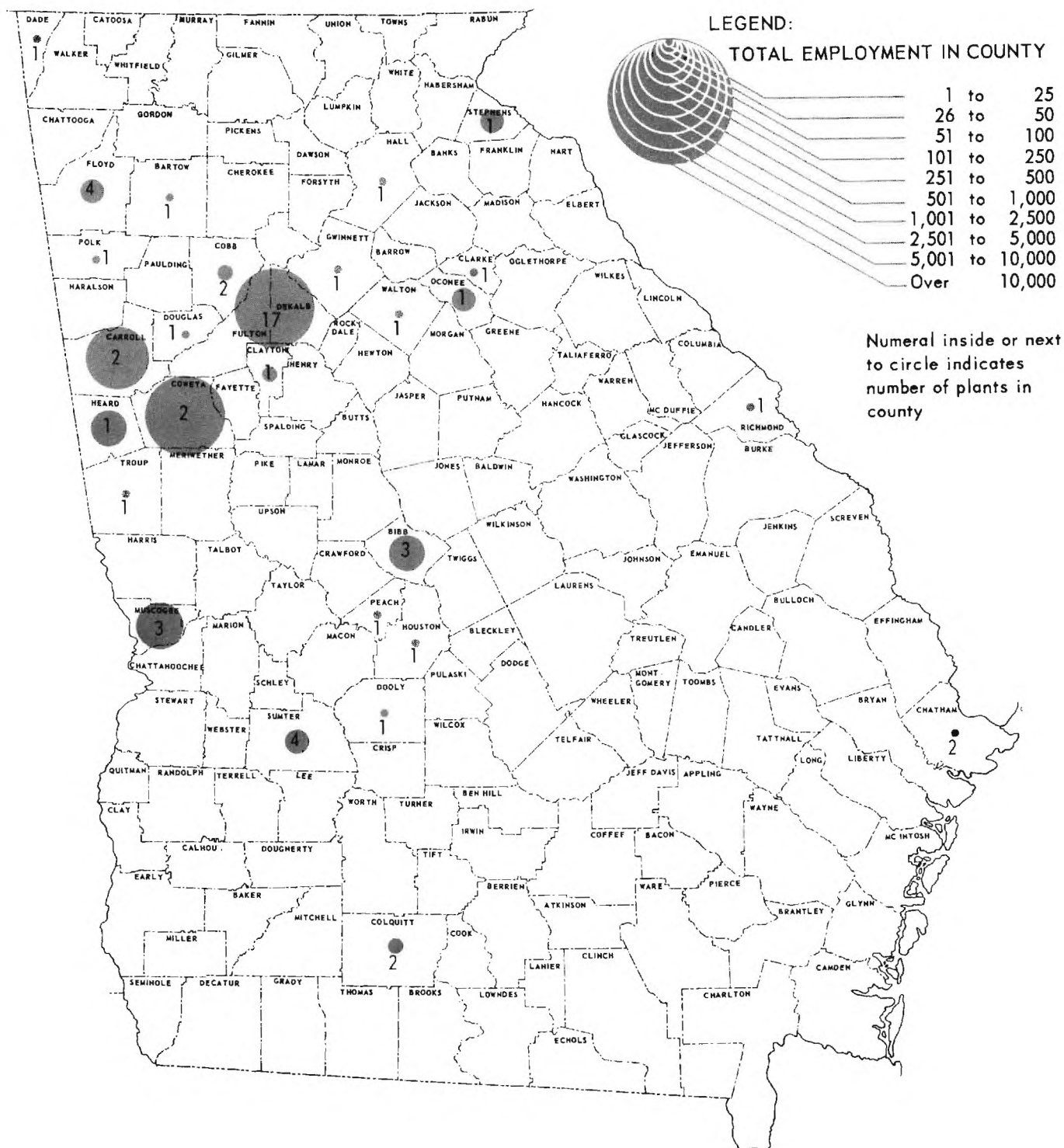
Lubricating oils and greases are manufactured in seven counties: Fulton-DeKalb area (3), Chatham County (2), and Bibb, Carroll, Cobb, and Richmond counties (1 each).

The only other company in this industry produces asphalt expansion joints and asphalt premolded vapor barrier materials in Fulton County.

Plant sizes vary from three- or four-man operations to companies with over 100 employees. The larger companies include Certain-teed Products Corporation (Savannah, Chatham County) -- asphalt building and roofing materials; The Rubberoid Company (Savannah, Chatham County) -- roofing felt and asphalt roofing; R. G. Foster and Company (Wadley, Jefferson County) -- asphalt and road construction; and Johns Manville Products Corporation of Georgia (Savannah, Chatham County) -- asphalt roofing and siding.

MAP 16

PRIMARY METAL INDUSTRIES



PRIMARY METAL INDUSTRIES

Georgia's primary metal plants are located in 28 counties, but it is clear from the map that most of the employees are in the Fulton-DeKalb area and Coweta County, followed by Carroll and Muscogee counties. These five counties have a combined employment of 4,300, or 84% of the 5,100 workers in the industry.

Although there are only 58 establishments in the state, they include a variety of manufacturing operations -- rolling mills, iron and steel foundries, refining of nonferrous metals and alloys, drawing and extruding of aluminum and other nonferrous metals, and nonferrous foundries.

The 29 companies which handle iron and steel operations employ nearly 2,900 workers. Major center of employment is the Fulton-DeKalb area, where six plants have a total of over 2,000 workers. Products include rolled steel and wire, gray iron castings, flanged cast iron, stainless steel machine parts and castings, and steel sprockets and gears. Three manufacturers in Sumter County make nails and foundry chaplets. Two steel tubing companies are located in Carroll and Gwinnett counties. Stephens County has the only steel foundry outside Atlanta. Gray iron foundries are located in 15 counties. The Fulton-DeKalb area and Muscogee County have three each, and Chatham and Floyd counties have two each. Ten counties -- Bartow, Bibb, Clarke, Colquitt, Dooly, Hall, Polk, Richmond, Troup, and Walton -- have one plant each. Total employment in the 20 gray iron foundries is over 1,000 workers.

Two of the gray iron foundries also do nonferrous work, bringing the total number of nonferrous operations to 31, with a work force of 2,200. The Fulton-DeKalb area has 11 of these plants, with over 200 workers. Bibb, Coweta, Cobb, and Floyd have two plants each and a combined employment of 1,100 -- of which 90% is in Coweta County. Twelve other counties have one plant each -- Carroll, Chatham, Clayton, Colquitt, Dade, Douglas, Hall, Heard, Houston, Oconee, Peach, and Sumter.

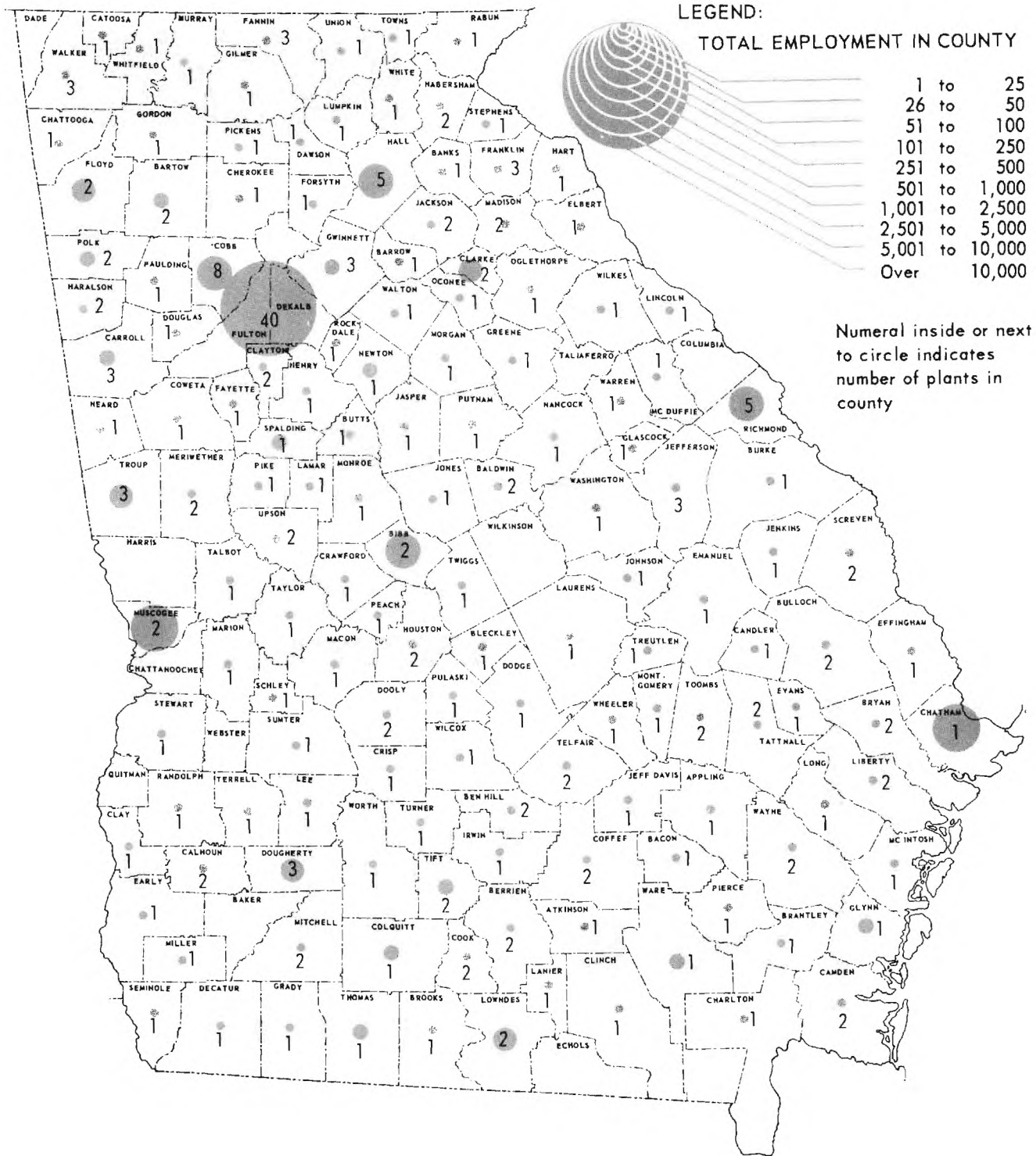
Many of the plants perform more than one operation, leading to duplications in the classification by type of work. Three companies, in Fulton, Cobb, and Houston counties, smelt and refine various nonferrous metals, including aluminum, brass, bronze, copper, and lead. Four companies, in Coweta, DeKalb, Heard,

and Peach counties, extrude aluminum. Three, all in the Fulton-DeKalb area, produce various lead products, such as sheet lead, lead pipe, and lead plumbing goods. Still another three, in Carroll, DeKalb, and Oconee counties, draw and insulate nonferrous wire.

Aluminum casting is done by 16 companies, located in Bibb, Chatham, Clayton, Cobb, Colquitt, Coweta, Dade, Douglas, Floyd, Fulton-DeKalb, and Hall counties. Twelve companies, including 10 that do aluminum casting, produce various other nonferrous castings, in brass, bronze, copper, magnesium, and zinc.

Major companies in the primary metals industry in Georgia include Atlantic Steel Company (Atlanta, Fulton County) -- rolled steel and wire; The William L. Bonnell Company (Newnan, Coweta County) -- aluminum extruded shapes; Southwire Company (Carrollton, Carroll County) -- wire and cable products; and Grinnell Corporation (Atlanta, Fulton County) -- flanged cast iron and water-main fittings.

MAP 17-A
PRINTING AND PUBLISHING



PRINTING, PUBLISHING, AND ALLIED INDUSTRIES

Printing and publishing companies are found in 149 of the state's 159 counties. In all there are 528 companies employing over 10,300 workers. Two maps have been prepared to show the location of different types of firms: "Printing and Publishing," which includes newspapers, periodicals, and book printing and publishing, and "Commercial Printing and Services," which includes all types of commercial printing, the manufacture of manifold business forms, greeting cards, blankbooks, loose leaf and library binders, bookbinding, and other miscellaneous related work and service industries for the printing trade.

In this particular industry it was felt that a more satisfactory picture would be presented if the total employment of each firm was allocated to its major type of service, with no attempt to estimate the number of employees engaged to a lesser degree in other printing work. Considerable overlapping exists in the printing and publishing field. Commercial printing, for example, is often done by newspaper printers as a side line, and general printers may print newspapers or periodicals on a contract basis. On these two maps, therefore, companies are recorded only once, either under "Printing and Publishing" or under "Commercial Printing and Services."

Printing and Publishing

Within the "printing and publishing" classification, 250 plants, spread over 149 of Georgia's 159 counties, employ a total of 5,400 workers. Newspaper printing and publishing accounts for 217 of these companies, with a total employment of 4,300. Most of the firms are small, often employing only one or two people; only 23 of them have more than 25 employees. The printing and publishing of magazines and periodicals is the next largest group, with 23 companies (two of them also newspaper publishers) employing less than 500 workers. Two of the magazine companies also print books, bringing this third group -- book printing and publishers -- to a total of nine companies employing between 300 and 400 workers. In four other companies the main emphasis is on the printing and publishing of directories and business reports, with a combined employment of about 300 workers.

It is clear from the map that the major concentration of printers and publishers is in the Fulton-DeKalb area, where 40 companies employ a total of

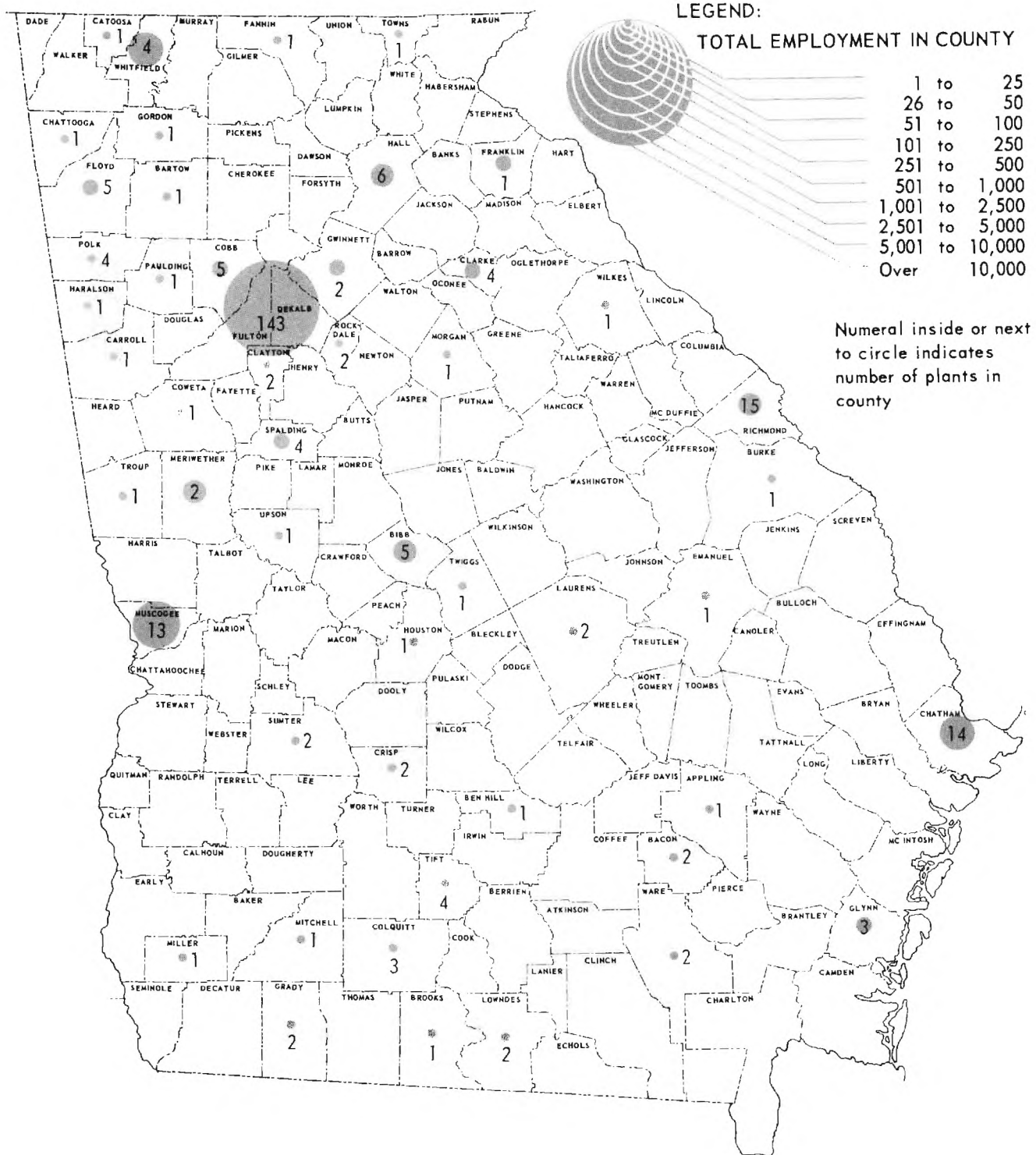
2,700 workers -- 50% of the total employment in the industry groups presented here. Broken down into the four groups referred to in the previous paragraph, the Fulton-DeKalb area has 63% of the employment in newspaper printing and publishing, 78% in magazine publishing, 92% in book publishing, and all miscellaneous directory and reports publishing.

Newspapers (not necessarily daily) are published in all the 149 counties shown to have one or more printing companies. Most of these are small operations, with the larger firms located in the major cities of the state. Atlanta Newspapers, Inc., is the largest in the newspaper publishing business and also the largest in the state's printing and publishing industry. Other major newspaper publishers are Savannah Newspapers, Inc. (Savannah, Chatham County), Ledger-Enquirer Company (Columbus, Muscogee County), Macon Telegraph Publishing Company (Macon, Bibb County), and Southeastern Newspapers, Inc. (Augusta, Richmond County).

As already indicated, the majority of magazine and book publishers are in the Fulton-DeKalb area. Magazine publishing and printing is also carried on in Bibb, Cobb, Dougherty, Floyd, Gwinnett, and Hall counties, with a combined employment of slightly over 100 workers. Three small operations print and publish books outside Atlanta in Bacon, Clarke, and Cobb counties.

MAP 17-B

COMMERCIAL PRINTING AND SERVICES



PRINTING, PUBLISHING, AND ALLIED INDUSTRIES

Commercial Printing and Services

Nearly 5,000 persons are employed by 278 companies whose main operation is commercial printing or related services. Concentration is in the Fulton-DeKalb area, where 143 firms employ 3,500 workers, or 71% of the total.

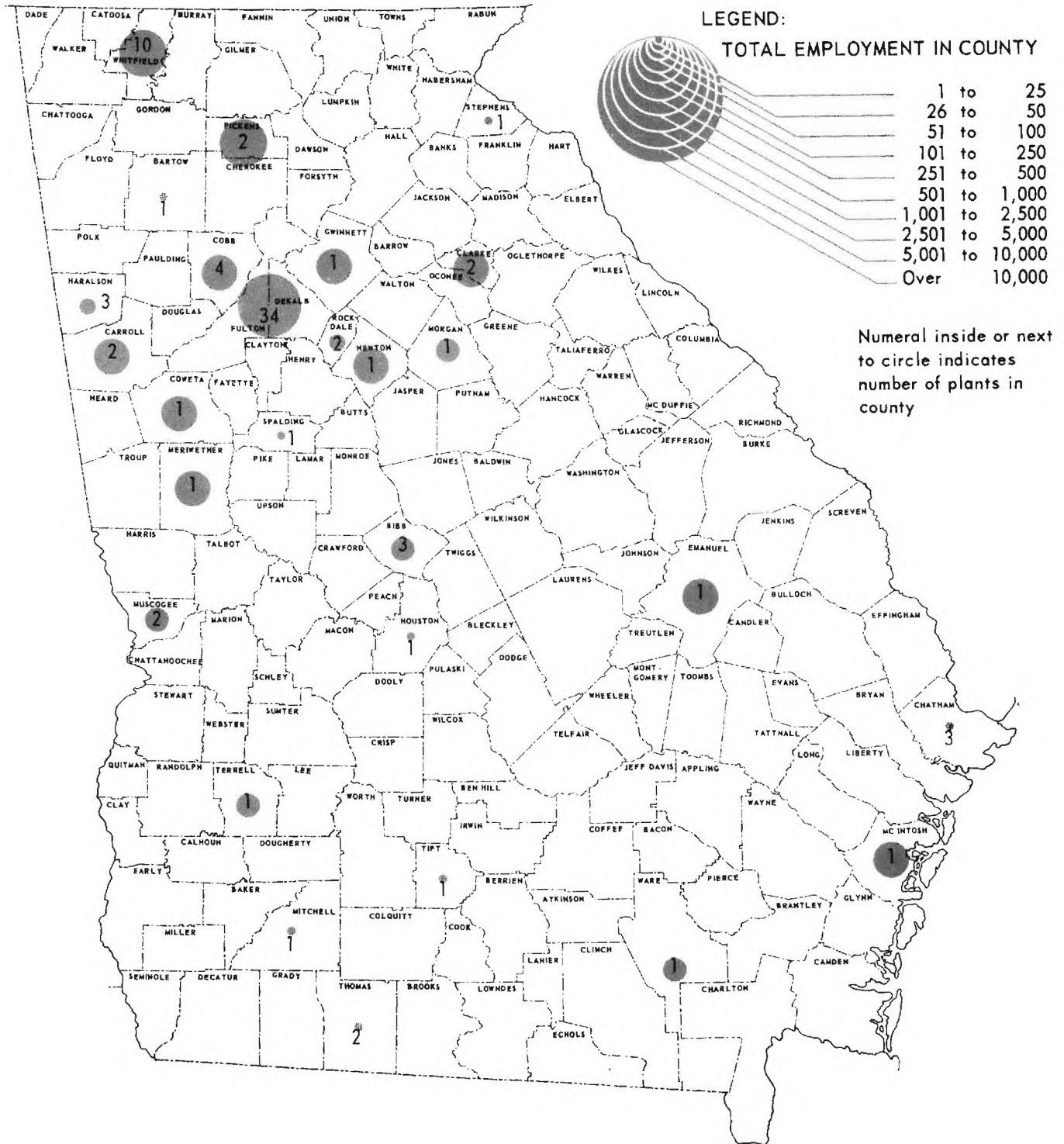
Many companies in this group have a variety of printing functions. Commercial printing, except lithographic, is done by 184 companies. The lithographic process is used by 79 companies, but 31 of these combine lithographic and nonlithographic work. Engraving and plate printing is done by nine firms, but four of these do this work as an adjunct to their commercial printing operations. In all, some 237 companies engage in commercial printing, employing approximately 4,100 workers. For the most part these are small operations; 198 firms have fewer than 25 workers each. Companies with over 100 employees are found only (with one exception in Whitfield County) in the Fulton-DeKalb area.

Other printing work and services are often performed by commercial printers as a subsidiary function, but the remaining 41 companies on this map specialize in various types of printing and printing services, such as the printing of business forms, blankbooks, paper ruling and bookbinding, typesetting, and the preparation of printing plates by photoengraving, electrotyping, or stereotyping. Only nine of these specialized companies are located outside the Fulton-DeKalb area. Business forms and binders are manufactured in Gwinnett, Meriwether, Morgan, Muscogee, Rockdale, and Whitfield counties, and plate engraving companies are found in Bibb, Chatham, and Gwinnett counties.

Major commercial printers in the state include three in the Fulton-DeKalb area: Ruralist Press, Inc. -- commercial printing, electrotyping; The Stein Printing Company -- printing, 3-D lithographic color pictures; and John H. Harland Company -- lithographed printing, engraving. The largest company outside the Atlanta area is L. A. Lee Company (Dalton, Whitfield County), which does general commercial and job printing.

MAP 18

RUBBER AND PLASTICS PRODUCTS



RUBBER AND PLASTICS PRODUCTS

Rubber and plastics products are manufactured in 84 plants in 28 counties, with a total employment of 3,400. The Fulton-DeKalb area has 34 of these plants, but only 17% of the workers. Whitfield County, with 10 plants, has 12% of the workers.

Rubber products account for 70% of the total employment in the industry and 43% of the total number of plants. Over 800 workers manufacture rubber footwear and tread rubber and other tire repairing materials. Other products include a miscellaneous assortment of molded rubber, foam rubber, rug backing, and various latex compounds.

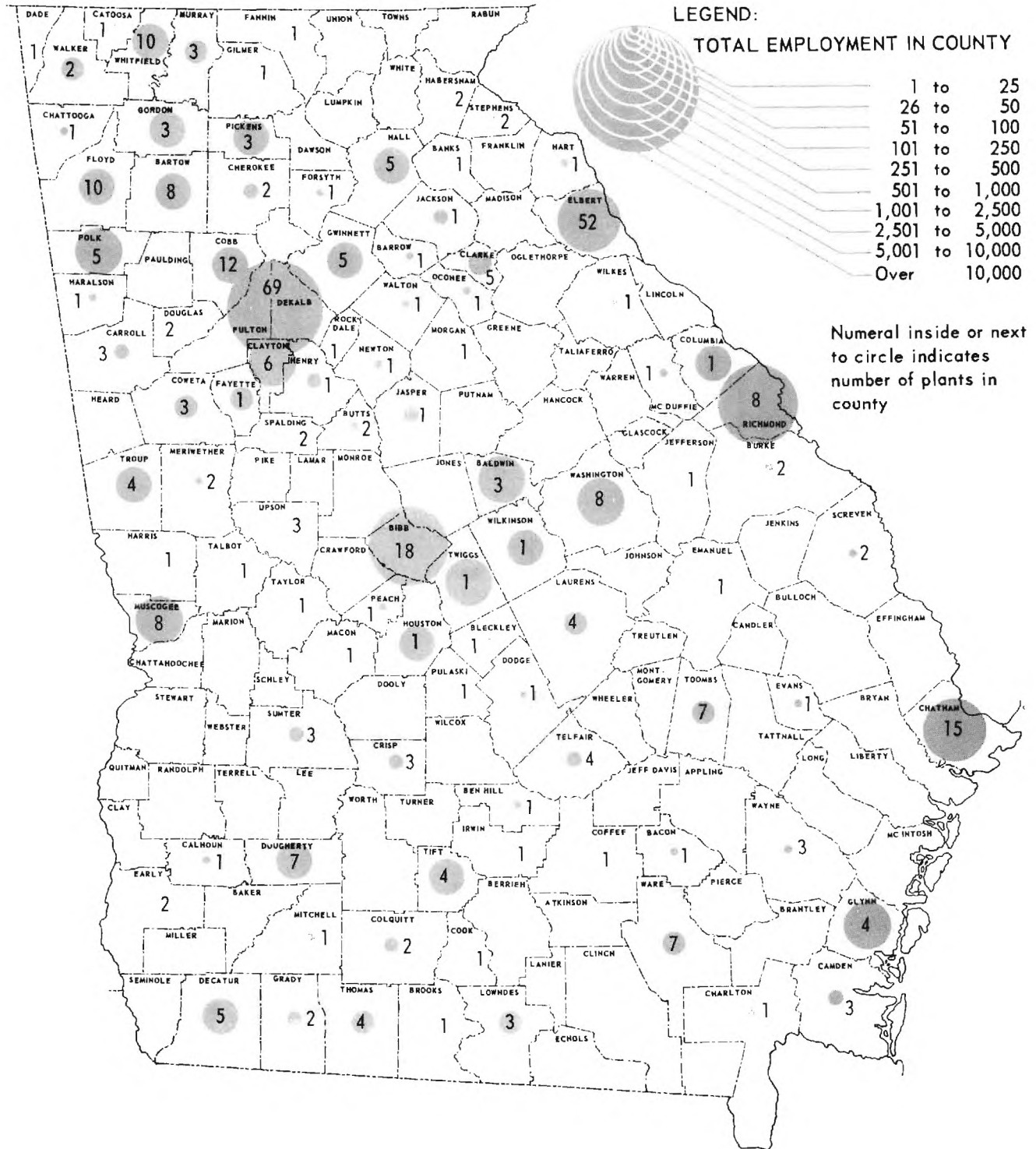
The plastics fabricators make a wide variety of articles -- panels, telephone booths, signs, tags, hoops, bathroom and kitchen fixtures, cups, insulation, toys, and many others.

Plant size varies from a small operation carried out by two or three people to companies employing well over 100 workers. Some of the larger firms also manufacture items not included in this industry classification, and the employment attributable to rubber and plastics products has been estimated.

Larger companies producing rubber and plastics products in Georgia include Pickens Footwear Co., Inc. (Jasper, Pickens County) -- molded footwear; Textile Rubber Co., Inc. (Bowdon, Carroll County) -- rubber and plastic molded items; Perling Industries, Inc. (Darien, McIntosh County) -- boys' vulcanized rubber-soled shoes and boots; Lamex, Inc. (Norcross, Gwinnett County) -- extruders, laminators; and The Newnan Corporation (Newnan, Coweta County) -- high-pressure decorative laminates.

MAP 19

STONE, CLAY, AND GLASS PRODUCTS



STONE, CLAY, AND GLASS PRODUCTS

The stone, clay, and glass industry provides employment for nearly 13,600 workers in Georgia. Some 401 plants are located in 97 counties. In addition to the picture of the total industry presented in Map 19, the location of establishments manufacturing concrete products is given on Map 19-A.

Over one fifth of the employment in the state's stone, clay, and glass industry is in the Fulton-DeKalb area, where 69 plants employ nearly 2,800 workers. Richmond and Bibb counties are next in employment size, the former with nearly 1,600 workers in eight plants and the latter with over 1,200 workers in 18 plants. Elbert County, the center of the granite industry, has 52 plants, chiefly small operations, with a combined employment of under 1,000 workers. Chatham County, with 15 plants, has nearly 600 workers. Together these six counties employ over 52% of the workers in this industry.

There are 174 plants manufacturing products other than those made of concrete. Structural clay products are the most important in terms of employment, with nearly 2,500 workers in 15 plants. Richmond and Bibb counties each have three plants and together account for 65% of the workers. Baldwin and Fulton have two plants each, and the other five are in Cobb, Columbia, Gordon, Thomas, and Whitfield counties.

Nonclay refractories are made in six companies (one of which also produces structural clay products) by less than 500 workers. Four of these plants are in the Fulton-DeKalb area, and the other two are in Richmond and Gordon counties.

Glass containers are made by only two companies -- Owens-Illinois, Glass Container Division, in Fulton County and Knox Glass, Inc., in Clayton County. Other glass products, such as glass doors, stained glass windows, and hand-blown vases, are made by four companies in Fulton, DeKalb, Gwinnett, and Floyd counties. Total employment in the six glass companies is nearly 1,300 persons.

Four companies make cement in plants in Chatham, Fulton, Houston, and Polk counties, with a combined employment of over 300 workers.

Only one company, located in Fulton County, makes vitreous china plumbing fixtures, but there are nine small establishments making other pottery items,

such as art pottery and flower pots -- two in Bibb, two in Cobb, and one each in Banks, Bartow, Fulton, Hall, and Meriwether counties.

Gypsum building materials are made by only two companies, one in Chatham County and one in Glynn County. Four companies produce agricultural or industrial lime -- two in Whitfield County and one each in Mitchell and Walker counties.

As indicated earlier, Elbert County is the center of the granite industry, with nearly 1,000 workers employed in 52 companies. There are 31 other firms producing monuments and other cut stone work, chiefly of granite or marble. Pickens County has the largest cut stone manufacturer in Georgia, with marble as its raw material. The Fulton-DeKalb area is second to Elbert County in number of companies, but they are comparatively small operations, with eight plants employing less than 150 persons.

There are 28 plants producing ground or otherwise treated minerals and earths, employing approximately 1,700 workers. The materials processed include bauxite, fuller's earth, talc, clay, granite, mica, feldspar, and limestone, but the most important is kaolin. Nine companies in the Washington-Twiggs-Wilkinson area employ nearly 800 workers in kaolin processing.

Seven companies manufacture asbestos products, with a combined work force of between 200 and 300 persons. Three plants are located in DeKalb County, and the others are in Camden, Chatham, Talbot, and Troup counties.

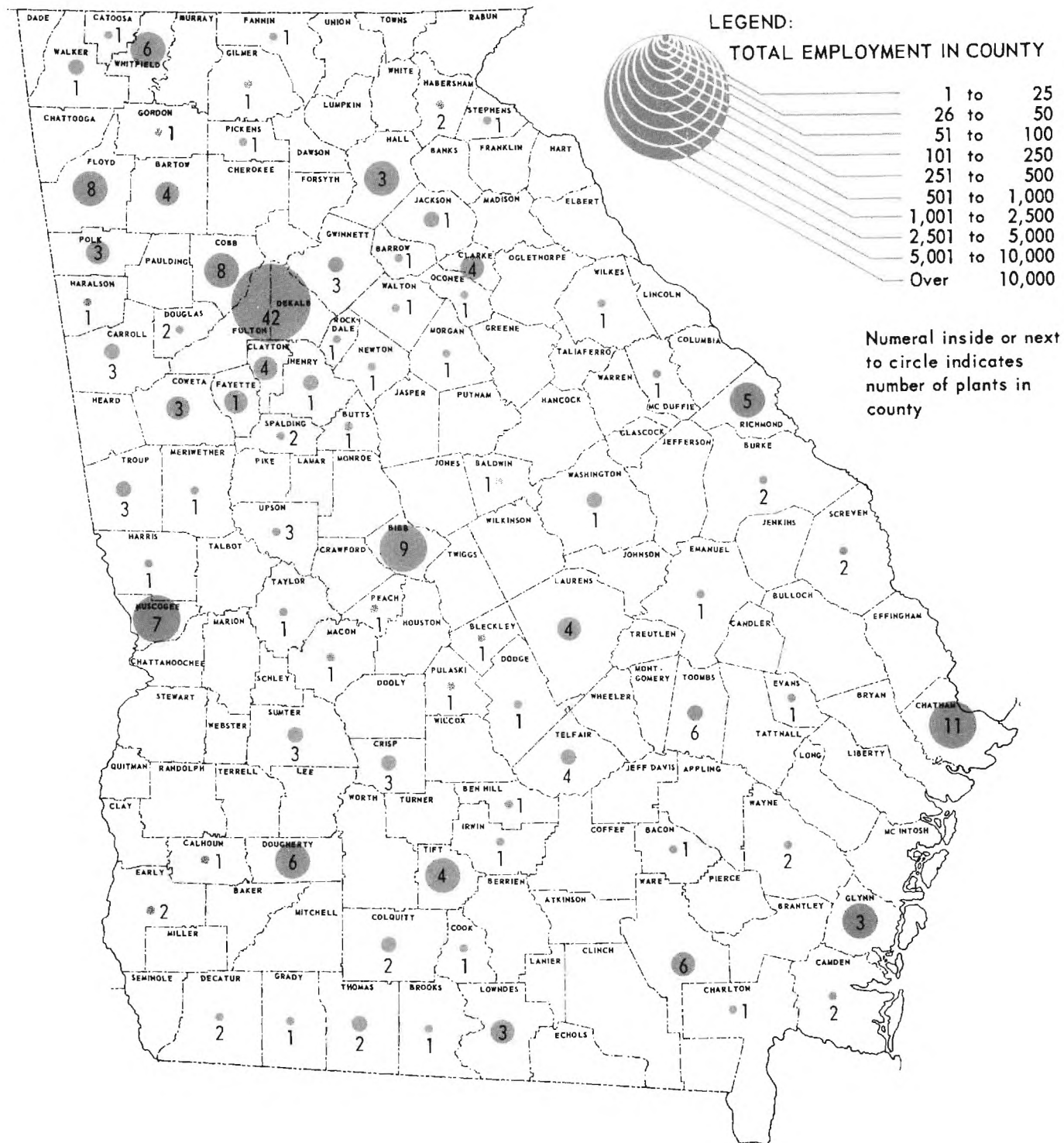
Two companies produce abrasives, in Clayton and Elbert counties. Four make packings for pipes and boilers -- two in Fulton County and one each in Gwinnett and Muscogee counties -- and two firms, both in Fulton County, make mineral wool insulation products.

Many of the companies in this stone, clay, and glass group of manufacturers also have mining and quarrying operation at the same site or near their processing factories. As far as possible, mining employment has been eliminated from the figures quoted; however, in the list of some of the major firms which follows, any nearby mining or quarrying operations have been indicated.

Major (nonconcrete) stone, clay, and glass plants include Owens-Illinois, Glass Container Division (Hapeville, Fulton County) -- glass containers; Knox Glass, Inc. (Forest Park, Clayton County) -- glass containers; Merry Brothers

Brick and Tile Company (Augusta, Richmond County) -- structural clay products; Cherokee Brick and Tile Company (Macon, Bibb County) -- structural clay tile, face and common brick; Oconee Clay Products Company (Milledgeville, Baldwin County) -- vitrified clay sewer pipe, fire clay plug lining, farm drain tile, face and common brick, structural clay building tile; The Babcock and Wilcox Company (Augusta, Richmond County) -- firebrick, mortars, ceramic fibers; National Gypsum Company (Savannah, Chatham County) -- gypsum products; The Georgia Marble Company (Nelson, Pickens County; also quarrying operations at Tate, Pickens County, and Whitestone, Gilmer County) -- marble fabricators; Georgia Kaolin Company (Dry Branch, Bibb County) -- processing and mining; Minerals and Chemicals Philipp Corporation (Attapulgus, Decatur County; Gardner, Washington County; McIntyre, Wilkinson County) -- kaolin mining and processing, fuller's earth products; and J. M. Huber Corporation (Huber, Twiggs County) -- refined kaolin clay and printing ink.

MAP 19-A
CONCRETE PRODUCTS



STONE, CLAY, AND GLASS PRODUCTS

Concrete Products

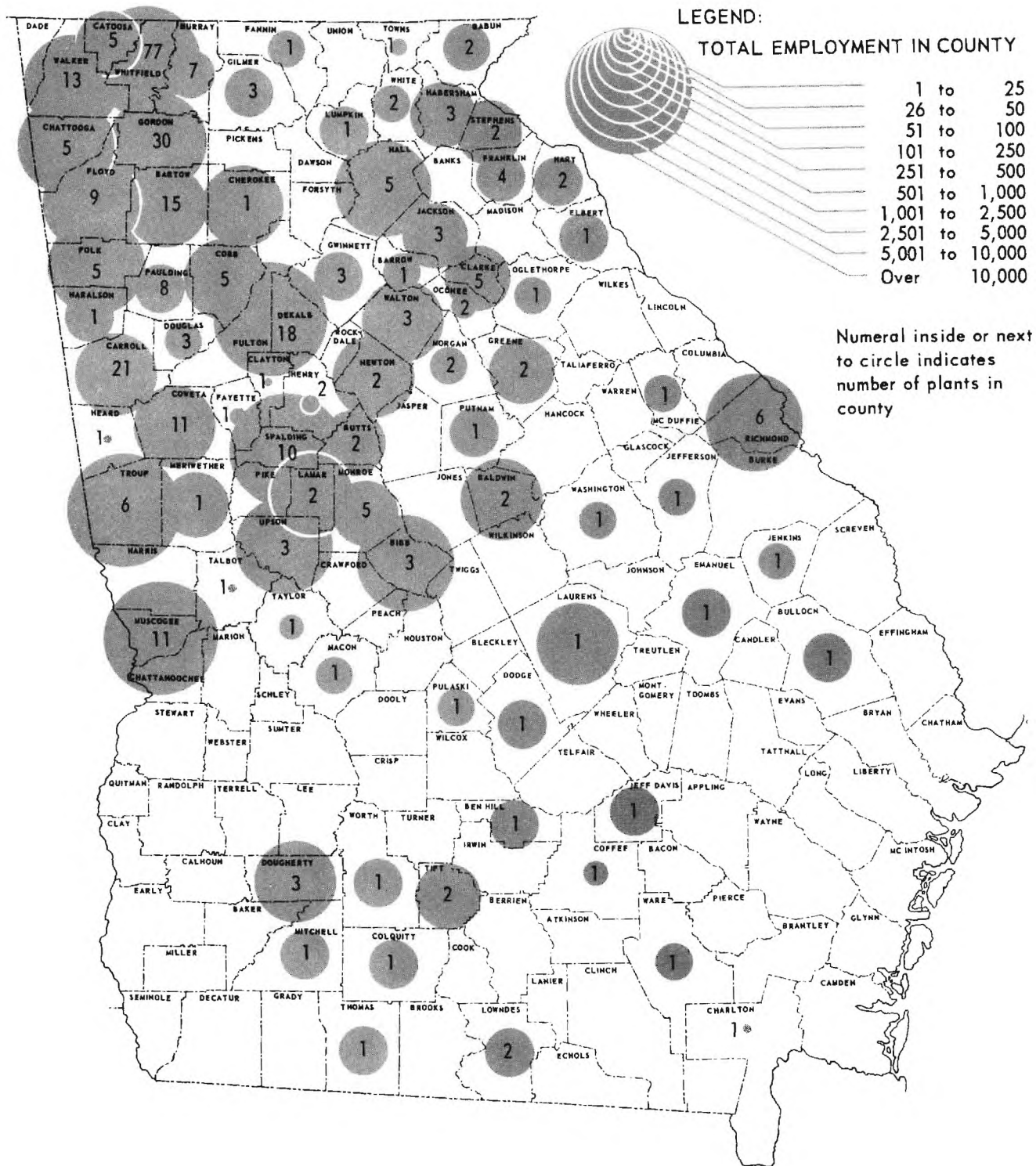
Over 5,000 workers are engaged in manufacturing concrete products -- 37% of the stone, clay, and glass industry in Georgia. The 233 plants are located in 80 counties. The Fulton-DeKalb area is the major employment center, with 42 companies providing jobs for nearly 1,300 persons. Muscogee, Bibb, and Chatham counties are next (in that order) in employment size, with a total of over 1,000 workers in 27 plants.

There are three divisions of the concrete products industry -- concrete brick and block, concrete products except brick and block, and ready-mixed concrete. Many companies, however, can be classified under two or all three categories. There are 74 plants producing concrete brick and block, but 43 of them also produce other items. In the second category there are 136 plants, of which 60 make other items. Ready-mixed concrete is made by 96 plants, but only 46 of these limit their output to this one product.

Major companies manufacturing concrete products in Georgia include Vulcan Materials Company, Concrete Pipe Division (Atlanta, Fulton County, and Scottsdale, DeKalb County) -- concrete pipe; Vulcan Materials Company, Stockbridge Stone Division (Atlanta, Fulton County; Gainesville, Hall County; Marietta, Cobb County; Stockbridge, Henry County; also quarrying operations in Columbus, Muscogee County; Kennesaw, Cobb County; Lithia Springs, Douglas County; Norcross, Gwinnett County; Red Oak, Fulton County; and Stockbridge, Henry County) -- concrete block, pipe, and ready-mixed concrete; Whitley Concrete Company (Chattahoochee, Fulton County; Decatur, DeKalb County; and three plants in Atlanta, Fulton County) -- ready-mixed concrete and mortar; Peavey Concrete Products (five plants in Fulton County) -- ready-mixed concrete and mortar; Bickerstaff Clay Products Company (Columbus, Muscogee County) -- concrete block, brick; and Precast Concrete Products Company (College Park, Fulton County) -- precast concrete sills and lintels.

MAP 20

TEXTILE MILL PRODUCTS



TEXTILE MILL PRODUCTS

More workers are employed in the textile industry in Georgia than in any other type of manufacturing. Although the growth of other industries has reduced the relative size of textile employment, this one industry still employs 27% of the total manufacturing workers in the state.

On a national level textiles are showing signs of a comeback, helped by the increased use of synthetic fibers. New types of fabric have been developed by industry researchers, featuring special qualities, such as resistance to wrinkles, mildew, or germs. Stretch fabrics represent an important new development with a bright future. The manufacture of tufted textiles is expanding, with Georgia the top producer in the nation.

There is a general trend toward mergers and increased capital expenditure as manufacturers buy cost-cutting machinery. Estimated spending on capital improvements in the industry totaled \$650 million in 1963, compared with \$610 million in 1962 and \$500 million in 1961.

These developments have had conflicting results on employment, with automation causing cut-backs and with increased demand for new-type products pulling in more workers.

Georgia has 370 textile plants located in 80 counties and employing over 103,000 workers.^{1/} Four subsidiary maps have been prepared to show the location of various types of textile production -- fabric mills, knitting mills, floor covering mills, and yarn, thread, and cord mills. The remaining textile operations are discussed below.

Miscellaneous Textile Products

Plants in the miscellaneous textile products group include those engaged in dyeing and finishing textiles, manufacturers of felt goods (except woven felts and hats), paddings and upholstery fillings, and artificial leather and

^{1/} This count from the basic data sheets of the Directory of Georgia Manufacturers appears to be high in comparison with the estimates published by the Georgia Department of Labor (97,100 in March 1964; 98,800 in October 1964) even allowing for the difference in method of approach. (See page 19.)

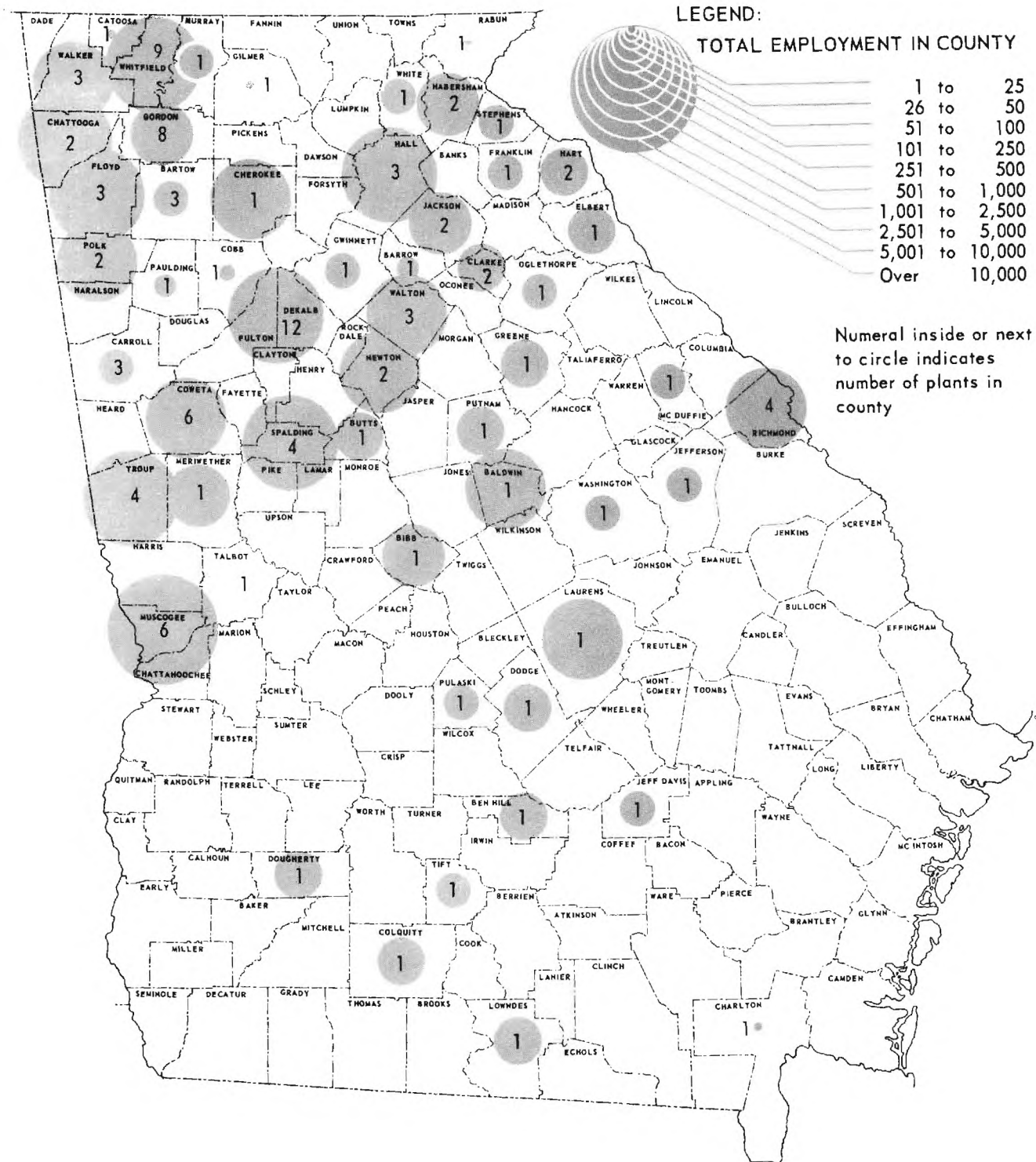
oilcloth, and processors of textile mill waste. These operations are carried on in 32 plants which are located in 19 counties and have a combined employment of over 5,000 workers.

Over 80% of this employment is in the dyeing and finishing of fabrics. Fifteen plants are engaged in this work in eight counties: Carroll (2), Coweta, DeKalb, Emanuel, Spalding, Upson, Walker (3), and Whitfield (5). The largest company is in Thomaston (Upson County), followed by plants in Spalding, Emanuel, Walker, and Carroll counties, in descending order of employment size.

Two plants, in Richmond and Ware counties, make felt goods. Six manufacture padding and upholstery filling -- three in Fulton County and one each in Henry, Jackson, and Lowndes counties. Textile waste is processed in seven plants in Clarke, Fayette, Fulton, Morgan, Muscogee, Troup, and Whitfield counties. The two oilcloth manufacturers are both in Columbus (Muscogee County).

The largest companies in this miscellaneous group of textile manufacturers are South Lowell Bleachery, (Griffin, Spalding County); Standard-Coosa-Thatcher Company (Rossville, Walker County); Swainsboro Printing and Finishing Company (Swainsboro, Emanuel County); and Thomaston Mills (Thomaston, Upson County) -- all finishers of broad-woven fabrics.

MAP 20-A
FABRIC MILLS



TEXTILE MILL PRODUCTS

Fabric Mills

Over 50% of the employment in Georgia's textile industry is in fabric mills. There are 120 of these mills, chiefly located in the northern half of the state. The greatest concentration of workers, however, is in Muscogee County, with over 6,000 persons employed in fabric mills. Six other counties each have over 3,000 employees -- Chattooga, Floyd, Fulton, Spalding, Troup, and Whitfield.

The cotton mills have been losing workers for many years -- some small firms have gone out of business, others have merged into larger operations (often followed by more automated production), and many have switched to blends of cotton and synthetics. All of them were plagued by the Federal two-price cotton program that gave overseas competitors the advantage of lower raw material costs to add to their usually lower labor costs. However, early in 1964 the program was changed to enable textile manufacturers to buy U. S. cotton at the same price as foreign mills pay -- a modification which helped to make 1964 a much more profitable year.

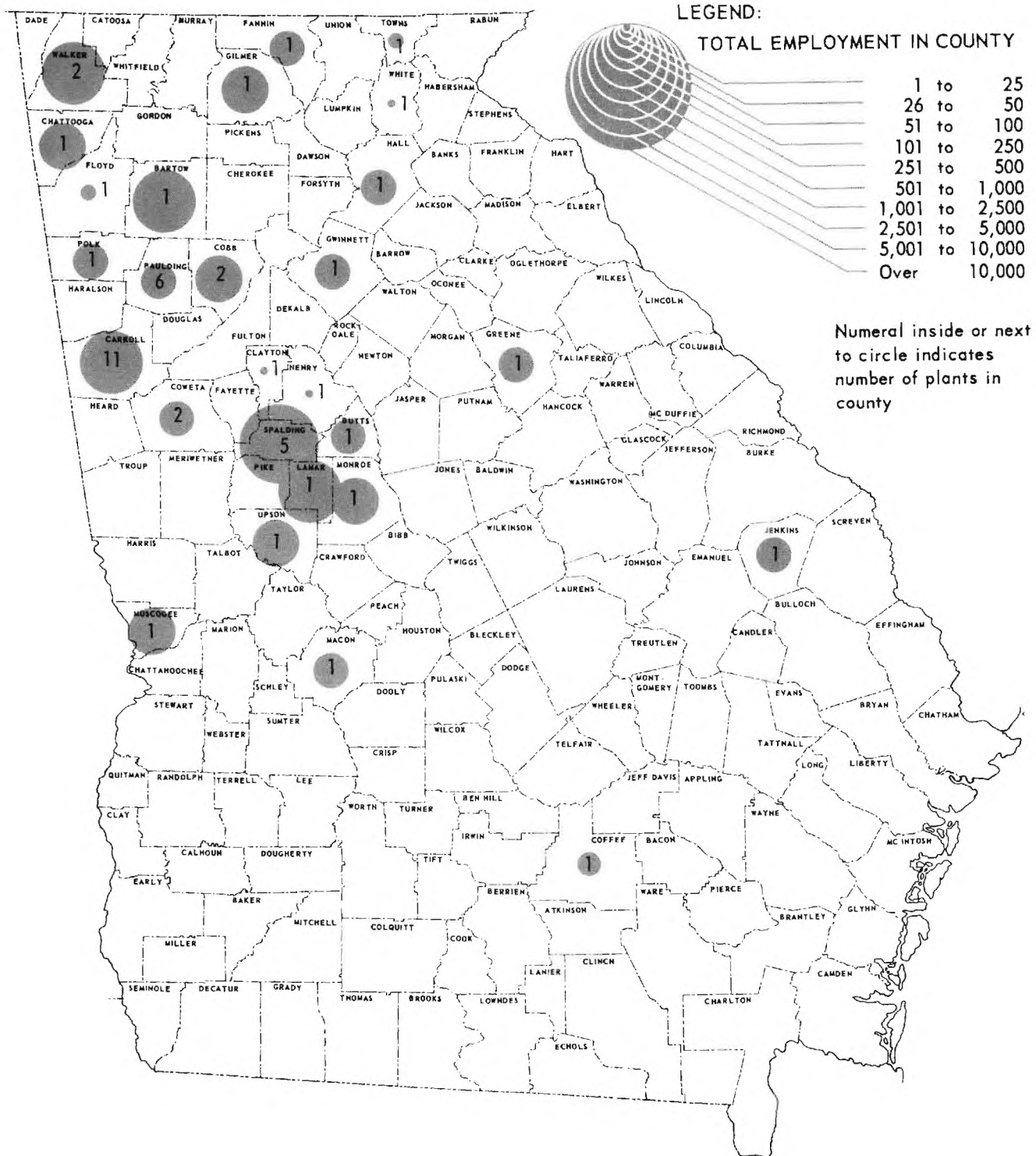
Many woolen mills also face problems -- from the increasing use of synthetics and from automated modern mills with which the small mills cannot compete successfully. Employment in the mills producing man-made fibers or blends of natural and synthetic fibers has been increasing, however, and the larger automated plants producing cotton goods, woolen goods, and synthetics are finding this mixed textile operation very profitable.

This diversification makes it difficult to pinpoint the mills by type of production, but in general it can be said that the greatest emphasis in the fabric mills is on cotton. The nine mills producing narrow fabrics are comparatively small operations -- three are located in Carroll County and one each in Clarke, Fulton, Gwinnett, Paulding, Talbot, and Whitfield counties. The broad-woven fabric mills tend to be major employers. Only 23 companies have less than 100 workers. Eighteen mills employ over 1,000 workers (four of these produce other types of textile goods, and some of their employees are, therefore, recorded on other maps).

In nine of the broad-woven fabric mills emphasis is on woolen materials. Four of these plants are operated by J. P. Stevens and Company, in Baldwin, Jefferson, Laurens, and Tift counties. The other plants are located in Barrow, Bartow, Fulton, Polk, and White counties.

Companies operating Georgia's largest fabric mills include J. P. Stevens and Company, with the four mills mentioned in the previous paragraph and a fifth in Fulton County producing sheeting, corduroys, and other cotton textiles; Bibb Manufacturing Company, with mills in Bibb, Muscogee, and Newton counties; Cal-laway Mills in Troup and Meriwether counties; Pepperell Manufacturing Company in Troup and Floyd counties; Muscogee Manufacturing Company and Swift Manufacturing Company, both in Muscogee County; Riegel Textile Corporation in Chattooga County; and Dundee Mills in Spalding County.

MAP 20-B KNITTING MILLS



TEXTILE MILL PRODUCTS

Knitting Mills

The 49 knitting mills in Georgia employ a total of 8,900 workers in 27 counties. Over half this employment is concentrated in five counties -- Spalding, Carroll, Lamar, Bartow, and Walker, in descending order of total number of employees.

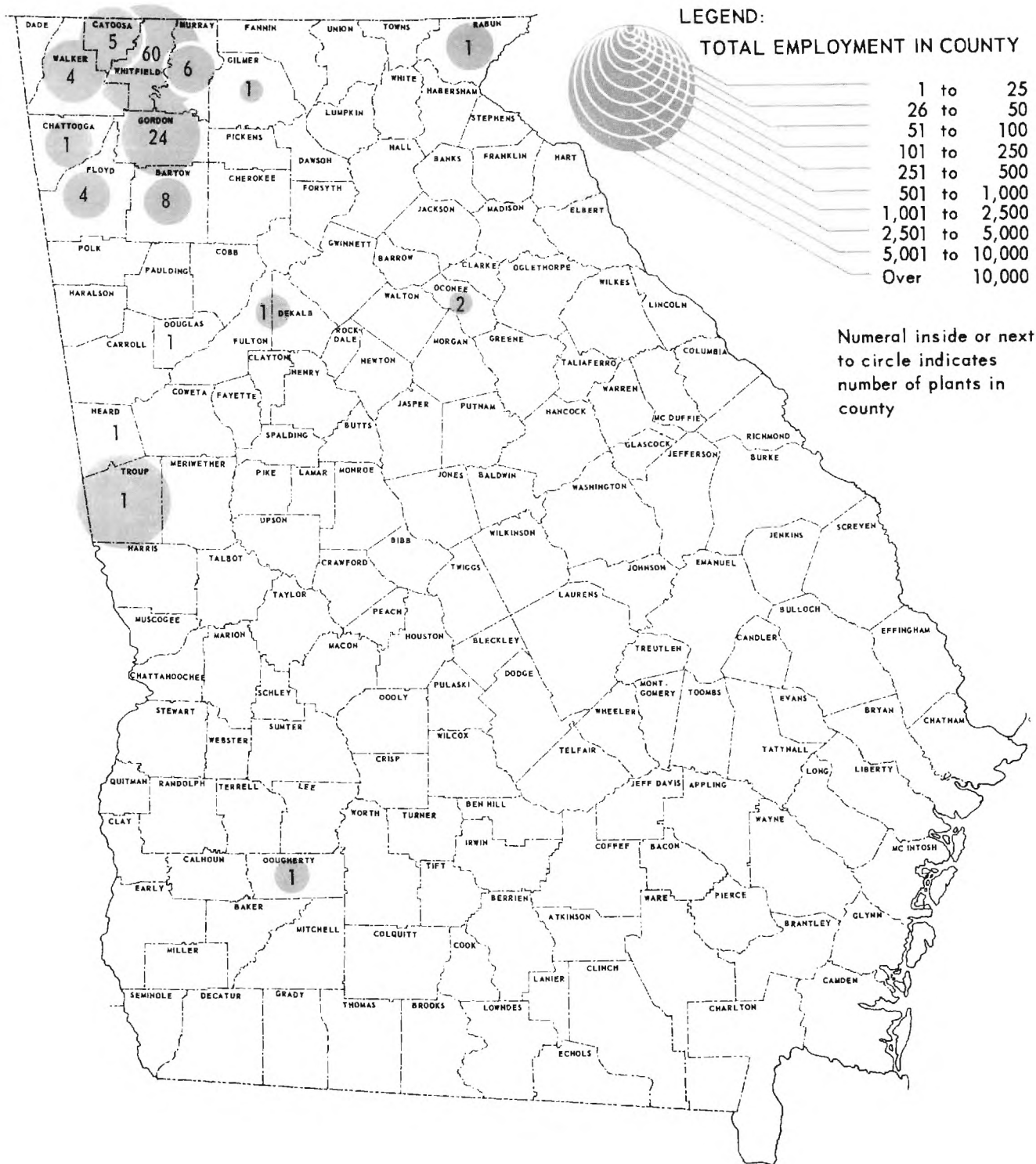
Over 70% of the plants, employing 53% of the employees, manufacture hosiery. These plants vary in size from a small sock manufacturer with four or five employees to companies employing several hundred. Sixteen of the hosiery mills have over 100 employees. Three plants produce both full-fashioned and seamless hosiery, and of the other 32 plants seven make full-fashioned and 25 make seamless hosiery.

There are 12 outerwear and underwear mills and, with only one exception, all employ more than 100 workers. Of the combined employment of 4,200, 60% is concentrated in three counties -- Spalding, Lamar, and Bartow.

One company in Clayton County manufactures laundry textiles, and two other companies in Carroll and Coweta make (with other textile products) knitted cloth and other miscellaneous knitted goods.

Georgia's largest knitting companies are The William Carter Company (plants in Lamar, Monroe, and Upson counties) -- knitwear for the whole family; E-Z Mills, Inc. (Cartersville, Bartow County) -- underwear; Spalding Knitting Mills (Griffin, Spalding County) -- seamless hosiery; and Griffin Jaco Mills (Griffin, Spalding County) -- knitted underwear and outerwear.

MAP 20-C
FLOOR COVERING MILLS



TEXTILE MILL PRODUCTS

Floor Covering Mills

Floor covering mills are of growing importance in Georgia's textile industry. At the time the Directory of Georgia Manufacturers 1963-64 was compiled, there were 121 mills employing 13,900 workers in 16 counties, but reports from the Department of Labor indicate that employment is steadily increasing.

Activity in this field is caused by the remarkable growth of tufted textiles. This Georgia industry has spread around the world, but its center is still Dalton, in Whitfield County. In 1963 Georgia led the nation with tufted textile shipments of \$523.6 million -- 63% of the U. S. total of \$836.3 million. Georgia firms accounted for 61.8% of the industry's carpet and rug shipments and 71.7% of its shipments of tufted bedspreads, robes, and miscellaneous items.^{1/}

From a process originally performed by an individual worker with a bodkin needle, tufted goods manufacture now is accomplished by electronically controlled machines with as many as 1,500 needles. Although bedspreads, robes, and bathmats are still made, as well as a variety of other items, the main emphasis has shifted to the manufacture of carpets. A loop pile machine can process over 2,000 square yards of carpet in one eight-hour shift, and the tufts are no longer just cotton, but nylon, wool, rayon, acrylics, and polypropylene.

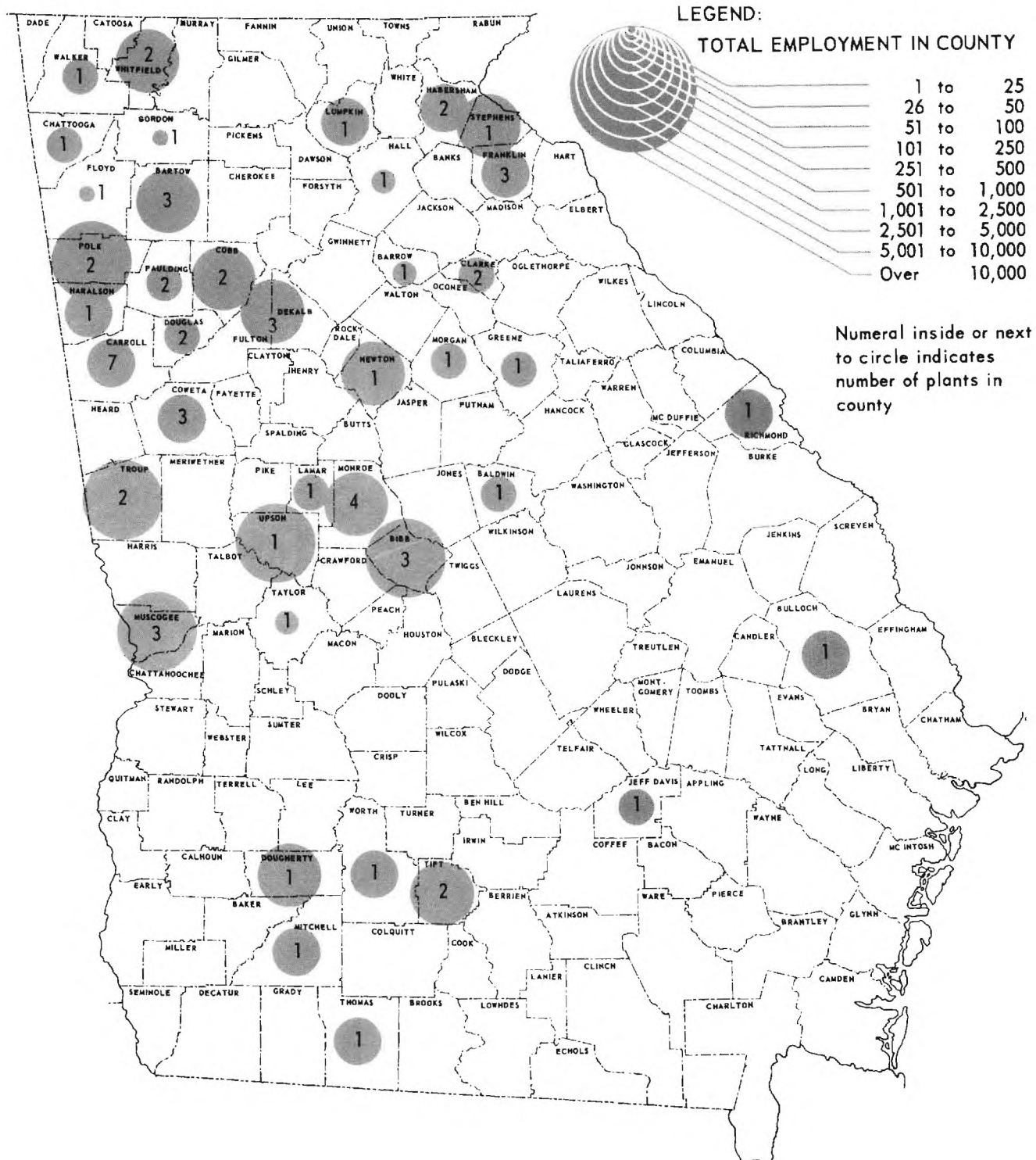
Except for six of the smaller companies, all the floor covering mills manufacture tufted carpets and rugs -- usually as their main product. Two plants in Bartow and two in Whitfield County make chenille rugs, and two in Oconee County make braid rugs and rug filler.

Major companies producing tufted carpets and rugs are Barwick Carpet Mills, with plants in Whitfield and Walker counties; Cabin Crafts, Inc., Coronet Industries, Inc., Queen Chenille Company, and World Carpet Mills, all in Dalton, Whitfield County; Callaway Mills Company (LaGrange, Troup County); Georgia Rug Mill, Division of Bigelow-Sanford Carpet Company, Inc. (Summerville, Chattooga County); James Lees and Sons Company (Rabun Gap, Rabun County); and Sweetwater Rug Corporation (Ringgold, Catoosa County).

^{1/} Wallace B. Bishop, Jr., Acrylic Fibers: A Manufacturing Opportunity for the Coosa Valley Area, Industrial Development Division, Georgia Institute of Technology, Atlanta, Georgia, 1964, p. 1.

MAP 20-D

YARN, THREAD, AND CORD MILLS



TEXTILE MILL PRODUCTS

Yarn, Thread, and Cord Mills

Yarn, thread, and cord mills in Georgia employ nearly 2,000 workers in 70 plants located in 40 counties.

Roughly 57% of the workers are engaged in spinning, throwing, twisting, or winding various types of yarn. There are 49 plants performing one or more of these operations, but over 30% of them also manufacture other textile products.

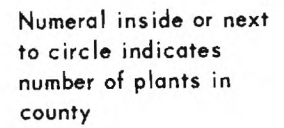
Six of the eight thread mills in the state are operated by Coats and Clark, Inc., with two plants in Cobb County and one each in Dougherty, Mitchell, Stephens, and Thomas counties. (The plant in Stephens County also makes zippers.) The other two thread companies are in Coweta and Haralson counties. Total employment in the eight mills is over 3,200 workers.

Goodyear Tire and Rubber Company operates three of the six tire cord and fabric mills -- two in Polk County and one in Bartow County. The other three are in Bibb County (Bibb Manufacturing Company), Lamar County (General Tire and Rubber Company, Aldora Mills Division), and Upson County (B. F. Goodrich Company, Martha Mills). Total employment in the manufacture of tire cord and fabric is approximately 5,200 workers.

Two of the yarn spinning companies also make rope and twine. Seven other companies manufacture cordage and twine as main products. Four of these plants are in Carroll County, and the other three are in Clark, Monroe, and Morgan counties.

Among the major companies engaged in the production of yarn, thread, and cord are Bibb Manufacturing Company, making both yarn and tire fabric; Coats and Clark, Inc., whose six plants have already been mentioned; and B. F. Goodrich Company, making tire fabrics.

TRANSPORTATION EQUIPMENT



TRANSPORTATION EQUIPMENT

The manufacture of transportation equipment in Georgia ranks fourth in total persons employed in major industry groups, with 32,000 workers in 108 plants.

Plants are located in 48 counties of the state, but the industry is dominated by the companies in the Atlanta area. Cobb, Fulton, and DeKalb counties, with 31 of the 108 plants, account for almost 83% of the employment. Next in employment size is Chatham County, followed by Hart and Peach. Over 90% of employment in transportation equipment is concentrated in these six counties.

Aircraft and motor vehicles and equipment are the most important product lines, accounting for 96% of the total employment of the industry. The Lockheed-Georgia Company plant in Cobb County employs over 50% of all workers in the transportation equipment industry, and the Chevrolet, Fisher Body, Ford, and Buick-Oldsmobile-Pontiac plants in the Fulton-DeKalb area account for a further 28%. Over 5,400 workers are employed in smaller companies throughout the state, making truck and bus bodies and truck trailer and motor vehicle parts and accessories. This figure also includes some 1,600 workers who produce mobile homes.

Ship and boat building and repair is carried on in 20 plants with a total of over 1,000 employees in 13 counties. Chatham is the leading county, followed by Fulton.

Other miscellaneous operations throughout the state include the production of golf carts, hand trucks, and boat trailers and the manufacture and repair of railroad rolling stock.

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PRODUCT GROUP INDEX
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